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Disclaimer
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Background

Brief history of COVID-19
The disease
COVID-19 is the illness caused by a newly identified coronavirus. COVID stands for coronavirus disease, and 19 refers to the year it started.

The coronavirus
The virus itself is called SARS-CoV-2, short for severe acute respiratory syndrome coronavirus 2.

Background
Coronaviruses are part of a large group of viruses that cause illness. Some coronaviruses cause mild illness, such as the common cold. Others can cause serious illness, such as COVID-19.

Purpose of document
The intent of this document is to provide clinicians and medical treatment facilities with best practices based on latest evidence to optimize response to the current COVID-19 pandemic.

Information was compiled and adapted from sources including:
- The Centers for Disease Control and Prevention
- The World Health Organization
- The Oregon Health Authority
- The Oregon Health & Science University
- The OHSU Wellness Task Force
- The OHSU School of Medicine COVID Inquiry Group
Epidemiology

Incubation

According to the CDC, symptoms may appear 2-14 days after exposure. The CDC bases this on what’s been seen with the Middle East Respiratory Syndrome coronavirus, or MERS-CoV. This virus was first reported in humans in 2012.

According to the World Health Organization, people are showing symptoms of the coronavirus 1-14 days after exposure, with five days being the most common. The WHO notes that estimates will be updated as more data becomes available.

Transmission

According to the CDC, the coronavirus appears to be highly contagious and to spread mostly person to person:

- Between two people who are within about 6 feet of each other.
- Through the droplets sprayed into the air when an infected person coughs or sneezes. These droplets can enter the mouth or nose of another person, or possibly be inhaled into the lungs.

In addition:

Some studies suggest that it can spread from infected people who aren’t showing symptoms. It may be possible for people to get COVID-19 by touching an object or surface that has the virus on it, and then touching the mouth, nose or possibly eyes.
Clinical Features

Symptoms
According to the CDC, symptoms may appear 2-14 days after exposure to the virus. People with these symptoms or combinations of symptoms may have COVID-19:

- Cough
- Shortness of breath

Or at least two of these symptoms:
- Fever
- Chills
- Repeated shaking with chills
- Muscle pain
- Headache
- Sore throat
- New loss of taste or smell

If you experience concerning symptoms (below), call 911 or call your local emergency department so they can prepare for your arrival. These symptoms include:

- Trouble breathing
- Persistent pain or pressure in the chest
- New confusion or inability to awaken
- Bluish lips or face
- Other severe symptoms

Precise information on duration of symptoms is not available. But according to a World Health Organization report, based on preliminary data from 55,924 confirmed cases in China:

- Mild cases lasted about two weeks.
- Severe cases lasted three to six weeks.
- Patients who died had symptoms for two to eight weeks beforehand.
Risk factors for COVID-19 complication

- Age >60
- Health conditions (as defined by the CDC):
  - Heart disease (CHF, CAD, HTN)
  - Chronic lung disease (COPD, asthma)
  - Endocrine disorders (e.g., diabetes)
  - Immunosuppression (including autoimmune disease, malignancy, HIV/AIDS)
  - BMI >30; blood disorders (e.g., sickle cell, on blood thinners)
  - Chronic kidney disease
  - Chronic liver disease
  - Neurological / neurodevelopment conditions
  - Current or recent (within 2 weeks) pregnancy.

Figure 1. Reported signs and symptoms for all confirmed COVID-19 cases (n=1099)

- Loss of smell: Yes 11.3%, No 12.6%, Unknown 76.1%, Total 29.7%
- Nausea: Yes 24.1%, No 46.2%, Unknown 29.7%, Total 28.9%
- Vomiting: Yes 10.6%, No 60.4%, Unknown 29.5%, Total 28.9%
- Diarrhea: Yes 23.2%, No 47.5%, Unknown 29.3%, Total 29.3%
- Abdominal pain: Yes 11.0%, No 39.9%, Unknown 49.0%, Total 49.0%
- Headache: Yes 33.5%, No 17.6%, Unknown 49.0%, Total 49.0%
- Runny nose: Yes 23.6%, No 27.4%, Unknown 49.0%, Total 49.0%
- Muscle aches: Yes 35.7%, No 15.5%, Unknown 48.9%, Total 48.9%
- Chills: Yes 34.1%, No 17.7%, Unknown 48.1%, Total 48.1%
- Mechanical ventilation: Yes 4.5%, No 65.2%, Unknown 30.3%, Total 30.3%
- Abnormal chest xray: Yes 11.3%, No 32.1%, Unknown 56.6%, Total 31.3%
- Pneumonia: Yes 17.0%, No 51.7%, Unknown 38.2%, Total 38.2%
- ARDS: Yes 4.5%, No 57.2%, Unknown 39.6%, Total 39.6%
- Sore throat: Yes 30.2%, No 39.6%, Unknown 25.7%, Total 25.7%
- Shortness of breath: Yes 42.5%, No 31.8%, Unknown 24.4%, Total 24.4%
- Cough: Yes 66.0%, No 9.6%, Unknown 26.5%, Total 26.5%
- Fever > 100°F: Yes 49.8%, No 23.7%, Unknown 26.5%, Total 26.5%
Screening, Triage and Testing Criteria

Guidance for Testing in the Emergency and Ambulatory Settings


The decision to test for COVID-19 depends on several variables, including:

1. Availability of test kits and reagents
2. Implications for patient management
3. Implications for infection control/public health

Symptomatic clinical criteria
Clinical signs/symptoms of upper or lower respiratory tract illness (+/- fever).

Asymptomatic clinical criteria
No signs/symptoms of respiratory tract illness BUT undergoing any of the following in the next several days:

1. Surgery or aerosol-generating procedure
2. Cesarean section or induction of labor
3. Stem cell transplant or CAR-T therapy
4. Solid organ transplantation

Outpatient Setting: In-Person Evaluation of the Patient with Symptomatic COVID-19 or Patient Under Investigation (PUI)

Adapted from “OHSU’s Primary Care In-Person Visit Guide” by OHSU.

General principles
- Be aware of anchoring bias. COVID is important but not yet highly prevalent; make sure to consider other conditions with respiratory symptoms or GI symptoms.
- Manage and optimize pre-existing chronic conditions.
- Consider x-ray to rule out lung infiltrate especially among pts with comorbidities.
- Provide focused physical exam to reduce direct contact with patients, and avoid removing patient mask if at all possible. Critically consider your use of a stethoscope.

Disposition Guide
1. Normal vital signs and physical exam, no risk factors*, appropriate social situation:
   - Discharge home
   - Consider COVID testing
   - Return precautions
2. Normal vital signs and physical exam, but significant risk factors: exertion test (see Figure 1. The Borg Scale), obtain one-view chest x-ray and COVID test.
   - If x-ray normal and O2 sat ≥ 90% with exertion: Discharge home
     - Arrange follow-up in-person visit in 24–36 hours or virtual visit in 24-36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if <93%
   - If x-ray suggestive of COVID 19 and/or O2 sat <90% with exertion: Consider ER referral or direct admission for observation.
   - If x-ray abnormal and suggestive of other conditions: appropriate care/follow-up for the condition
3. Mild hypoxia, no additional oxygen administration required (O2 sat 93-95% on room air), otherwise normal vital signs or mild abnormality, no risk factors* and O2 sat ≥ 90% with exertion:
• Discharge home
• COVID testing
• Follow up:
  - In-person visit in 24–36 hours or virtual visit in 24–36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if <93%
  - Modified Borg Scale (1-10; see below) with instructions to monitor level of exertional dyspnea with activities of daily living (ADL) or counting aloud to 20; advise patient to go to ED or call COVID Hotline if score increasing or > 3.
4. Mild hypoxia, no additional oxygen administration required (O2 sat 93-95% on room air), otherwise normal vital signs or mild abnormality, with risk factors* and O2 sat ≥ 90% with exertion
  • If x-ray normal and O2 sat ≥ 93% with exertion: Discharge home
  • Arrange follow-up in-person visit in 24–36 hours or virtual visit in 24–36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if <93%
  • Modified Borg Scale (1-10l see below) with instructions to monitor level of exertional dyspnea with activities of daily living (ADL) or counting aloud to 20; advise patient to go to ED if score increasing or > 3.
  • If x-ray suggestive of COVID 19 and/or O2 sat <93% with exertion: ER referral or direct admission for observation
5. Patients requiring oxygen administration, any evidence of end organ dysfunction/shock, or otherwise unable to go home:
  • Transfer to ER

*Risk Factors
  - Age >60
  - Vital sign abnormalities (e.g., RR 20; systolic BP 200 pulse 110), considering patient’s baseline parameters and using physician discretion
  - Evidence of, or impending, organ failure: encephalopathy (confusion / change in mental status), respiratory failure, renal failure, heart failure, liver failure
  - Lymphopenia and neutropenia
  - mSOFA score (<8 high priority for critical care)
  - Health conditions (as defined by the CDC): heart disease (e.g., CHF, CAD, Hypertension); chronic lung disease (e.g., COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy or HIV/AIDS); BMI>30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological / neurodevelopment conditions; current or recent (within 2 weeks) pregnancy.

Patients are asked to rate their difficulty breathing. Anything 3 or higher should prompt a return to health care provider.

Emergency Department Admission: Symptomatic COVID-19 or Patient Under Investigation (PUI)

![Figure 1. The Borg Scale](image)
ED Admission for COVID-19 or PUI is for supportive care as well as concern for complications, including need for supplemental oxygen or advanced support for respiratory failure, septic shock, and multi-organ failure, or for patients whose clinical trajectory raises concern that such support will be needed quickly.

Ultimately, disposition decisions must occur on an individual basis, and this medical decision will depend not only on the clinical presentation, but also on the patient’s ability to engage in self-monitoring and self-care, the feasibility of safe isolation at home, and the risk of transmission in the patient’s home environment.

Please use the following six examples as general guidelines, not to usurp your bedside judgement.

1. Normal vital signs and physical exam, no risk factors for severe illness, appropriate social situation: COVID testing + discharge
2. Mild hypoxia, no additional oxygen administration required (O2 sat 93-95% on room air), otherwise normal vital signs or mild abnormality, no risk factors:
   - Discharge home
     - Home pulse oximetry twice daily, with instructions to call or return to the hospital if <$93%
     - Check in after 24–36 hours with telehealth or in-person visit
     - Modified Borg Scale (1-10) with instructions for monitoring level of exertional dyspnea with activities of daily living (ADL) or counting aloud to 20
3. Normal vital signs and physical exam, but significant risk factors: obtain imaging. Significant risk factors + disease severity indicators (abnormal imaging): admit to observation or dedicated COVID-19 unit.
4. Patients requiring oxygen administration (maintaining O2 sat >95% on ≤6 L/min nasal cannula) or otherwise unable to go home, but without severity criteria:
   - Observation admission, if possible to COVID-19 ward with continuous vital sign monitoring
5. Patients who require oxygen therapy (nasal cannula or face mask) and/or continuous monitoring of vital parameters but do not seem to be progressing to high flow oxygen needs:
   - Inpatient admission on continuous telemetry to COVID-19 ward.
   - Initiation of treatment: prone positioning, pharmacologic treatment
6. Patients with increasing respiratory and other organ dysfunction: Short of intubation, indications for ICU may include rapid progression of respiratory symptoms; escalating oxygen requirement on supplemental O2, requiring/anticipated to require HFNC (needing to increase FiO2 to maintain SpO2>90%); evidence of end organ damage or tissue hypoxia or increased risk of developing this quickly.
   - Consult ICU for admission
   - Initiation of treatment: prone positioning, pharmacologic treatment

*Risk Factors*
- Age >60
- Vital sign abnormalities (e.g., RR 20; systolic BP 200 pulse 110), considering patient’s baseline parameters and using physician discretion
- Evidence of, or impending, organ failure: encephalopathy (confusion / change in mental status), respiratory failure, renal failure, heart failure, liver failure
- Lymphopenia and neutropenia
- mSOFA score (<8 high priority for critical care)
- Health conditions (as defined by the CDC): heart disease (e.g., CHF, CAD, Hypertension); chronic lung disease (e.g., COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy or HIV/AIDS); BMI>30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological / neurodevelopment conditions; current or recent (within 2 weeks) pregnancy.
Considerations for moderate or surge conditions:
Based on capacity in ED, internal and family medicine wards, and ICU, and in coordination with the on-call administrator, certain conditions that may reasonably be managed outside of the unit should be prioritized for floor admission. These include, for example:

1. Uncomplicated alcohol withdrawal. Receiving repeated IV benzodiazepines without escalating doses or mental status/hemodynamic decline;
2. Moderate DKA (bicarb 12-15, pH >7.0) without hypokalemia;
3. Atrial fibrillation with HR < 150 managed by intermittent boluses or a fixed infusion, but with stable blood pressure and no evidence of ischemia;
4. Hyperkalemia and volume overload in renal patients with appropriate access and no arrhythmia; pursue initial treatment in ED followed by telemetry admission to wards for expedited dialysis as long as repeat bloodwork does not show increasing potassium after initial ED treatment.

Symptomatic COVID-19 or PUI Patients: Emergency Department Disposition Decision

![Flowchart diagram showing decision-making process for symptomatic COVID-19 patients]
Outpatient Testing Guidance/Workflow

COVID-19 Medical Assistant (MA) Testing Workflow

Adapted from “COVID-19 MA Testing Workflow. Documentation for COVID-19: Adult and Pediatric” by OHSU.

1. Clinic provider determines patient is appropriate for COVID testing. Enters order for COVID testing.
2. Clinic pages COVID Medical Assistant (MA) with location of patient to be tested.
3. COVID MA will go to clinic and check in with staff. If COVID MA is getting multiple pages will call clinic and provide estimated time of arrival.
4. COVID MA will log in and release the order from the clinic’s order pool.
5. COVID MA will don appropriate PPE (mask, eye protection, gown and gloves) provided by the clinic.
6. COVID MA will enter the patient room, ask two patient identifiers, explain the process and perform the testing. Testing process includes:
   a) Two media and two swabs needed per collection. Each swab should be placed in its own media.
   b) Prepare specimen for pick up and leave in the clinic specimen pick up area.
7. Clinic MA will do any needed follow up or education with patient, including bringing visit to a close and providing AVS. MAs can only educate based on what is on an education sheet. If the education sheet does not answer the patient’s question, the question needs to be escalated to a Registered Nurse (RN) or Licensed Independent Practitioner (LIP) to answer.
8. COVID MA will give clinic MA the room cleaning job breakdown sheet for appropriate room cleaning.

Ambulatory & Mobile COVID-19 Testing Delegation Protocol


A Delegation Protocol was created to provide direction for patients and community members that desire to be screened for COVID-19 based on specific criteria outlined below. This protocol is intended to provide direct and timely access to screening and specimen collection for patients with COVID-19 exposure or suspected respiratory illness based on best available evidence. The protocol affects an unknown quantity of patients, but thought to be in the thousands, given the current pandemic.

Staff authorized to initiate the delegation protocol and demonstrated competencies:
Authorized staff includes licensed Registered Nurses (RN) and Medical Assistants (MA) who are trained in the performance of Nasopharyngeal (NP) collection for screening.

Inclusion criteria
1. 2 months and older
2. Patient or parent consent for testing – COVID-19
3. Completion of RN triage screening supporting criteria for testing

Exclusion Criteria
1. Asymptomatic
2. Work-related infectious disease exposure (influenza, COVID-19, etc.)

Protocol
Patient will be provided with services based on their evaluated epidemiologic and clinical risks. These services will be provided in accordance with best practices indicated by OHA and the CDC.

Test Collection Site
1. Ensure patient is given a regular mask upon arrival. If caregiver and/or accompanying people have respiratory symptoms, encourage mask use for those people as well.
2. Check-in/Registration per standard process.
3. Provide patient information handout explaining the testing that will be done as well as the billing/financial cost information.
4. RN to screen patient for COVID-19 testing
   a) Patient does not meet criteria for testing indicated:
      i. Patient does not meet criteria: proceed to provide “Home Care” handout
      ii. Patient requires higher level of care indicated after RN assessment: proceed to provide info on where to seek care.
   b) Testing is indicated after RN screen
      i. RN will enter order for the following testing using “Delegation Protocol” order mode, then sign: COVID-19 (Outpatient) [LAB103362].
      ii. RN will provide patient with pre-printed instructions:
         1. Post-testing information.
         2. Work/school release with self-quarantine information.
5. Medical Assistant to print 1 order label (for COVID-19 test), don appropriate PPE, and then collect sample.
   a) Sample may be nasopharyngeal (NP) swab OR oropharyngeal (OP) swab.
   b) Appropriately label swab and store sample per standard.
   c) Samples sent to lab.
6. MA to close encounter.
7. Have authorizing provider sign off.

Method of documenting that the delegation protocol was used to initiate care
The Registered Nurse (RN) will enter orders using “Delegation Protocol” order mode using an orderset and sign the order.

Literature demonstrating that the delegation protocol is evidence-based
1. Oregon Health Authority
2. Centers for Disease Control
3. WHO
4. OHSU

Specimen collection resources and guidelines
Nasal wash specimen collection without suction
Adapted from “Nasal Wash Specimen Collection without Suction for the most accurate results for COVID-19” by OHSU.

Check for nasal obstruction. Patients with a nasal obstruction should be swabbed using standard technique.
Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required Personal Protective Equipment (PPE) to be worn at all times when collecting a respiratory specimen:
- Gloves
- Face shield
- Procedure mask
- Isolation gown

Collecting Specimen:
1. Squeeze 1 saline bullet (5 ml) into a sterile specimen container.
2. Instill sterile saline into a clean bulb suction.
3. Insert bulb into one nostril until nostril is occluded.
4. Instill saline into nostril with one squeeze of the bulb and immediately release bulb to collect recoverable nasal specimen.
5. Empty bulb into suitable dry, sterile specimen container.
6. Send specimen to the lab.

**Nasal wash specimen collection with wall suction**

*Adapted from “Nasal Wash Specimen Collection with Wall Suction for the most accurate results for COVID-19” by OHSU.*

Check for nasal obstruction. Patients with a nasal obstruction should be swabbed using standard technique. Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required Personal Protective Equipment (PPE) to be worn at all times when collecting a respiratory specimen:
- Gloves
- Face shield
- Procedure mask
- Isolation gown

**Collecting specimen:**
1. Connect wall suction tubing to the conical shaped adapter on the DeLee ™ canister.
2. Connect suction tubing to the tubing on the DeLee ™ catheter.
3. Set the wall suction to appropriate suction setting.
4. Check suction and measure distance from tip of nose to external opening of ear. Mark length with thumb and forefinger.
5. Gently insert tube into nostril and posterior pharynx until the thumb and forefinger touch the patient’s nose. Do not use lubricants other than saline to aid tube insertion.
6. Apply suction while withdrawing and rotating tube. Catheter should remain in nasopharynx no longer than 10 seconds.
7. Hold trap upright to prevent loss of secretions from trap.
8. Repeat procedure for second nostril.
10. Remove cap from packaging and place on top of DeLee™ trap.
11. Send specimen to the lab

**Nasal swab specimen collection**

*Adapted from “Nasal Swab Specimen Collection for the most accurate results for COVID-19” by OHSU.*

Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required Personal Protective Equipment (PPE) to be worn at all times when collecting a respiratory specimen:
- Gloves
- Face shield
- Procedure mask
- Isolation gown

**Collecting specimen:**
1. Gently insert swab into a nostril straight back (not upwards), along the floor of the nasal passage until reaching the posterior wall of the nasopharynx. The distance from the nose to the ear gives an estimate of the distance the swab should be inserted. Note: Do not force swab – if an obstruction is encountered, try the other nostril.
2. Rotate swab gently for 10 seconds.
3. Remove swab slowly.
4. Bend handle of swab 1.5 to 2 inches straight down towards swab tip. Immediately place swab into the transport media. Leave swab in transport media. Swab should be entirely enclosed in tube, no wire should extend past lip of tube. Replace lid to transport media. Tighten to prevent leakage during transport.
5. Follow the standard operating procedures of transport and testing for your location. If off campus, then place specimen on ice.

Oropharyngeal Swab Specimen Collection
Adapted from “Oropharyngeal Swab Specimen Collection for the most accurate results for COVID-19" by OHSU.

Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required Personal Protective Equipment (PPE) to be worn at all times when collecting a respiratory specimen:
- Gloves
- Face shield
- Procedure mask
- Isolation gown

Collecting specimen:
1. Instruct patient to tilt head back, open mouth, and say "ah".
2. Use tongue depressor to push down the front third of the tongue. Do not gag the patient.
3. Insert the swab without touching the lips, teeth, tongue, cheeks, or uvula.
4. Gently and quickly swab the tonsils from side to side.
5. Carefully withdraw the swab without touching the oral structures.
6. Bend handle of swab 1.5 to 2 inches straight down towards swab tip. Immediately place swab into the transport media. Leave swab in transport media. Swab should be entirely enclosed in tube, no wire should extend past lip of tube. Replace lid to transport media. Tighten to prevent leakage during transport.
7. Follow the standard operating procedures of transport and testing for your location. If off campus, then place specimen on ice.

Guidance for Rapid Test
Adapted from “Guidance for Rapid Test. Documentation for COVID-19: Adult & Pediatrics” by OHSU.

There has been tremendous demand for this very limited testing resource and a clear ask for better guidance on how to decide when to use the test. In order to conserve this precious resource, we are restricting use to situations where the result is critical to clinical decision-making.

The test can be used in the following situations:

- Pre-transplant patients upon admission for solid organ transplantation in <12 hrs
- Patients undergoing Pacific Northwest Transplant Bank donor work-up with donation planned in <12 hrs
- High-risk hematology/oncology patients who need urgent interventions in<12 hours that would be contraindicated in a COVID-19 positive patient
- Obstetric patients expected to deliver in <12 hours where the result would affect clinical care of the mother/infant dyad

Requires approval by the COVID-19 inpatient physician: Isolated emergent situations not included above where clinical decision-making would change depending on the result of the test.

Please continue to use the existing lab test (COVID-19 by PCR) for most COVID testing. The turnaround time for the existing test is about 12 to 36 hours, and is often less than 24 hours.
Retesting of Asymptomatic Patients for COVID-19

Adapted from “Retesting of Asymptomatic Patients. Documentation for COVID-19: Adult & Pediatrics” by OHSU.

The below guidance applies to an asymptomatic patient who was tested and had a not detected COVID test. It does not apply to symptomatic patients, or to patients who have had a test that detected COVID-19.

When should I retest a previously tested, asymptomatic patient?
The hospitalized patients who have previously had a test that did not detect COVID-19 and remain asymptomatic should only be retested in the following circumstances:

1. More than 3 days have passed since initial negative test AND
2. Need for surgery or aerosol-generating procedure within the next 3 days

When can I stop serial testing of an asymptomatic patient who is hospitalized?
You can stop serial testing of an asymptomatic hospitalized patient when either:

1. 2 tests have returned not detected and the patient remains asymptomatic without known or suspected COVID-19 exposures OR
2. The patient’s initial COVID test was not detected, the patient has been hospitalized for 14 days and the patient remains asymptomatic without known or suspected COVID-19 exposures

Please note that these testing criteria are subject to change as we learn more about COVID-19, including the incidence of healthcare-associated COVID-19.
Test Results workflow
Adapted from “COVID-19 Workflow. Documentation for COVID-19: Adult & Pediatric” by OHSU.

Positive result, Ambulatory & ED

- Result visible in Epic
- Send email notification to distribution: AmbulatoryCOVIDResults@ohsu.edu
- Automatic via Epic

Infection Prevention & Control
- Add patient to roster
- Report at next EOC

COVID-19 Results Pool
- RN pool receives result when visible in Epic
- Responsible for patient notification, health department notification, and patient follow-up

Ambulatory/Outpatient COVID MD (Pager# 17379)
- Receives positive test results

Negative result, Ambulatory & ED

- Result visible in Epic
- Automatic via Epic

COVID-19 Results Pool
- RN pool receives result when visible in Epic
- Responsible for patient notification
Positive result, Inpatient

- Alerts RN in unit
  - Visible in EPIC result

- RN alerts responsible provider

- Send email notification to distribution:
  - InpatientCOVIDResults@ohsu.edu

**Infection Prevention & Control**

- Add patient to roster
- Round in inpatient unit; ensure proper precautions, room log and supplies
  - (during daytime, on call as needed)
- Report at next EOC

**AOD (Pager# 12241)**

- Alert Incident Commander
- Notify Public Safety
- Alert inpatient manager or cluster manager on call
- Page Logistics (#10223)
- Page Equipment Pool (#10667)

**Inpatient COVID MD (Pager# 15176)**

- Connect with patient’s attending for assistance needs
- Notify Strat Comm

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Negative result, Inpatient

- Alerts RN in unit
  - Visible in EPIC result

- Page first call provider
Positive result, Healthcare Personnel

- Alerts Occupational Health (OH) Pager 10106, email to OccHealth@OHSU.edu, and fax lab results.
- Not visible in Epic result.
- OH will notify worker of test result, review exclusion criteria, and advise that they discuss with their exclusion status with their manager ASAP.
- OH will notify health department of residence.
- Prepare with affected HCP a line list of other HCP’s who had significant exposure. An email communication will be sent out to HCP’s to report their exposure using an online reporting tool. Quarantine of asymptomatic HCP’s will only occur in special circumstances.
- OH will notify manager that worker should be on sick leave. We cannot disclose reason.
- OH will report out at the next EOC meeting.

AOD (Pager #12241); Alert only if affects critical staffing
Alert Incident Commander prn

COVID MD (Pager #15176)
- Alert CMO (Renee Edwards)
  - Notify Strat Comm

Infection Prevention & Control
- Add HCP to roster
- Consult w/ OH as necessary for case details (10106)
- Prepare with Occupational Health a line list of patients that may have been exposed.
- Report at next EOC meeting.

Negative result, Healthcare Personnel

- Alerts Occupational Health (OH) with lab results fax.
- Not visible in Epic result.
- OH will notify worker of test result by email, advise that return to work be guided by Illness Policy.
- OH will report out at the next EOC meeting.
Infection Prevention & Control (including PPE and isolation)

**Standard Precautions**

Adapted from the “Standard Precautions Policy” by OHSU.

Standard Precautions are a set of practices that apply at all times regardless of the patient’s suspected or confirmed infection status. Standard Precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. Standard Precautions protect healthcare workers from recognized and unrecognized sources of infection. Additional infection control precautions, such as Contact, Contact Plus, Droplet, or Airborne may be added based on laboratory findings or patient symptoms.

**Definitions:**
1. **Food** - raw, cooked, or processed edible substance, ice, beverages, chewing gum or ingredient used or intended for use or sale in whole or in part for consumption.
2. **IFU** – Instructions for Use (provided by the manufacturer of equipment/devices)
3. **Mask** – Refers to either a surgical mask or a procedure mask and includes those that tie behind the head and those that have ear loops
4. **OPIM** – Other potentially infectious material (for example, body fluids, secretions, and wound drainage)
5. **PAPR** – Powered Air Purifying Respirator
6. **PPE** – Personal protective equipment (for example, gloves, gown, mask, goggles, face shield)

**Responsibilities:**

Healthcare workforce members are to follow Standard Precautions at all times when working with patients, equipment or environment that might be contaminated with patient blood, body fluid, or OPIM.

Standard Precautions require that the healthcare worker be mindful during their clinical practice and assess for risks of transmission, and to be prepared by gathering necessary protective equipment prior to providing patient care.

**Procedures:**

1. **Hand hygiene**
   a. Perform hand hygiene
2. **Respiratory hygiene/cough etiquette**
   a. Perform Respiratory hygiene/cough etiquette
3. **Appropriate use of PPE**
   a. **Glove use**
      i. Wear clean, non-sterile gloves for contact with blood, body fluids, secretions, mucous membranes, and contaminated surfaces and equipment.
      ii. Change gloves between tasks and procedures on the same patient, after contact with material that may contain a high concentration of microorganisms, when holes or tears are noted, or when the glove’s ability to function as a barrier is compromised.
      iii. Remove gloves and perform hand hygiene promptly after use, before touching non-contaminated items and environmental surfaces and before going to another patient.
      iv. For most patient care activities performed outside of restricted areas, non-sterile gloves are appropriate. Sterile gloves should be worn when performing invasive procedures or when working in a sterile field.
   b. **Masks and goggles**
      i. Wear mask and goggles or face shield to protect mucous membranes of the eyes, nose, and mouth during patient care activities that are likely to generate a patient cough, splashes or sprays of blood or other body fluids. Examples include endotracheal intubation and collection of a nasopharyngeal swab. A surgical mask should also be worn when eye protection is necessary.
ii. Wear surgical mask when placing a catheter or injecting material into the spinal canal or subdural space such as during myelograms, intrathecal injection of chemotherapy and spinal or epidural anesthesia.

c. Gowns
   i. Wear a fluid-resistant gown to protect skin and to prevent soiling of clothing during patient care activities that are likely to result in contact with blood, drainage, and OPIM.
   ii. Wear a fluid-resistant gown, sterile gloves, mask and eye protection when deep tissues/organ spaces are entered or manipulated with an introducer, wire, trocar or similar instrument.

d. PPE for Patient resuscitation
   i. During patient resuscitation, use a mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions

e. Procedure-specific PPE must be worn when indicated. For example, maximal barrier precautions including cap, mask, sterile gown, and sterile gloves must be worn for central line insertion (refer to policy “Invasive Intravascular Catheters Placed in OR – Placement and Follow-up” for more information).

f. Remove all PPE immediately after use and discard in regular trash. If PPE is dripping with blood or OPIM, discard in biohazard trash. Do not wear the same PPE to care for another patient or outside of the patient/exam/procedure room. PPE worn in any patient care activity or procedure area is to be considered contaminated. To prevent cross-contamination, PPE should be removed in the following sequence to first remove the most contaminated then least contaminated items: gloves, goggles or face shield, gown, mask. Perform hand hygiene after PPE removal.

g. When transporting a patient, wear appropriate PPE if patient contact is necessary (such as having contact with oral secretions). To prevent environmental contamination, do not touch surfaces such as hand rails and elevator buttons while wearing PPE.

h. When working in restricted and semi-restricted areas, refer to the Surgical Scrub Attire Policy.

4. Safe work practices
   a. If uniform or clothing becomes soiled with blood or body fluids:
      i. Don gloves and remove clothing immediately; handle clothing as little as possible
      ii. Do not rinse clothing
      iii. Wash contaminated skin with soap and water prior to changing into hospital scrubs
      iv. Paper scrubs are available from Logistics (ext. 4-5666)
      v. Cloth hospital scrubs can be obtained by using the following process:
         1. Employee contacts the Logistics Warehouse at extension 4-5666 to request a temporary surgical scrub station personal identification number (PIN)
         2. Employee uses the temporary PIN to access and return one set of hospital-owned surgical scrubs within 48 hours or the start of their next scheduled shift
         3. Employees in cloth hospital scrubs must adhere to the Surgical Scrub Attire policy with regard to warm-up jackets and cover jackets
      vi. Put soiled personal clothing in a plastic bag, seal immediately and label for transport home. Once home, place hospital-furnished clothing in plastic linen bag, to be returned to the hospital for laundering
      vii. At home to protect from cross-contamination, wash soiled personal clothing separately from other laundry using: 160°F (71°C) water and detergent. For water less than 160°F (71°C) use detergent and a bleach-containing product. Mechanical drying of the clothing is recommended.
   b. Appropriate handling of laundry
      i. Prevent soiled linen from touching Healthcare workforce member’s skin or mucous membranes
      ii. Do not pre-rinse soiled linens in patient care areas
   c. Food and drink
      i. In patient care areas, managers and other area leaders can designate specific locations where drinks with lids are allowed (for example, the main nursing station lower level counter). These locations must be separate from areas where lab specimens or contaminated equipment are handled or stored, even temporarily.
ii. Eating, drinking from open containers or coffee cups, and utensils are prohibited at laboratory workstations or in patient care areas including the charting area outside patient/exam rooms, or in any area visible by patients.

iii. Food and drink are not allowed in restricted and semi-restricted areas. Refer to the Surgical Scrub Attire Policy for a list of these areas.

5. Clean and safe reusable equipment
   a. Clean, disinfect and/or sterilize reusable patient care equipment between each patient according to the IFU.
   b. Single-use items are not used on more than one patient, and they are properly discarded after use.
   c. Prevent soiled equipment from contacting Healthcare workforce members’ skin, mucous membranes or clothing.
   d. Disinfect environmental surfaces that had contact with contaminated equipment.

6. Safe handling of needles and other sharps
   a. If present, engage safety device immediately after use.
   b. Do not reuse, recap, bend, break, or hand-manipulate used needles.
   c. If recapping is required, use a one-handed scoop technique only.
   d. Place used sharps in designated puncture-resistant containers.

7. Patient placement
   a. Follow room requirements as specified in the Transmission-Based Isolation Precautions Policy for placement of patients requiring isolation precautions.
   b. Prioritize for single-patient room if patient is at increased risk of transmitting infectious agent(s), is likely to grossly contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection.

Guidelines on isolation
Adapted from the “Transmission-based Isolation Precautions” by OHSU.

Ambulatory Care: Airborne, contact and droplet precautions
For outpatients seen in an ambulatory clinic, follow Standard Precautions section in addition to the requirements listed below:

Outpatient Requirements: Airborne Precautions
1. Room
   a. Take the patient immediately into the examination/procedure room with door closed.
   b. The doors of the room must remain closed for at least 1 hour after patient discharge.

2. PPE
   a. Follow the Respiratory Hygiene-Cough Etiquette policy immediately upon patient arrival to outpatient area (e.g., waiting area, lobby).
   b. Mask the patient immediately (a procedure mask is adequate). The patient must remain masked during the entire visit.
   c. If a patient must be unmasked or cannot be masked, providers must use N-95 respirators or PAPRs in addition to Standard precautions (which includes protective eyewear as appropriate).

3. Visitors
   a. Visitors must follow Standard precautions and additionally:
      i. Screen all visitors for signs or symptoms consistent with the patient’s illness.
      ii. If the visitor has symptoms consistent with the patient’s illness, they should wear a procedure mask.
      iii. If the visitor is asymptomatic and will accompany the patient to the exam room or procedure room, they should wear an N-95 mask.
   b. Ensure that visitors perform a fit check when N-95 mask is worn.
4. Cleaning
   a. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).
   b. If the patient was masked for their entire visit, there is no delay with clinic room turnover. If the patient removed their mask in the exam room, the room must remain vacant with the door closed for 1 hour to ensure adequate air exchange. Staff may clean the room during this time with appropriate respiratory protection (N-95 or PAPR).

**Outpatient Requirements: Contact precautions**

1. Room
   a. Prioritize the placement of these patients into the examination/procedure room so as to minimize the risk of transmission in shared areas.

2. PPE
   a. Provide covering or dressing for the patient in order to cover and contain draining lesions (e.g. wound or incision).
   b. Staff should wear gowns and gloves in accordance with Standard precautions (i.e. when coming into contact with body fluids or non-intact skin, or when clothing may become contaminated).

3. Visitors
   a. Visitors must follow Standard precautions.

4. Cleaning
   a. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).

5. Outpatient Requirements: Contact Plus precautions
   a. Room
      i. Prioritize the placement of these patients into the examination/procedure room so as to minimize the risk of transmission in shared areas.
   b. PPE
      i. Provide covering or dressing for the patient in order to cover and contain draining lesions (e.g. wound or incision).
      ii. Staff should wear gowns and gloves in accordance with Standard precautions (i.e. when coming into contact with body fluids or non-intact skin, or when clothing may become contaminated).
   c. Visitors
      i. Visitors must follow Standard precautions with hand hygiene performed with soap and water rather than alcohol-based hand sanitizer.
   d. Cleaning
      i. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved sporicidal agent (i.e. bleach wipes).

**Outpatient Requirements: Droplet precautions**

1. Room
   a. Take the patient immediately into the examination/procedure room.

2. PPE
   a. Mask the patient (a procedure mask is adequate). The patient must remain masked during the entire visit.
b. If the patient must be unmasked or cannot be masked, providers must wear procedure masks in addition to Standard precautions (which includes protective eyewear as appropriate).

c. Follow respiratory etiquette: instruct patients to cover their coughs with a tissue, dispose of tissue properly in a waste receptacle, and perform hand hygiene after disposing of tissues.

d. In outpatient clinics and the Emergency Department, patients may be requested to wear a procedure mask during increased community prevalence of communicable respiratory diseases.

3. Visitors
   a. Visitors must follow Standard precautions and additionally:
      i. Screen all visitors for signs or symptoms consistent with the patient's illness.
      ii. If the visitor has symptoms consistent with the patient's illness, they should wear a procedure mask.
      iii. If the visitor is asymptomatic and will accompany the patient to the exam room or procedure room, they should wear a procedure mask.

4. Cleaning
   a. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).

Guidelines on PPE

Recommended personal protective equipment (PPE) to use while caring for a person under investigation (PUI) OR confirmed COVID-19 patient

Adapted from “Recommended Personal Protective Equipment (PPE) to use while caring for a Person Under Investigation (PUI) OR Confirmed. Documentation for COVID-19: Adult & Pediatric” by OHSU.

<table>
<thead>
<tr>
<th>Personal Type/Visitor</th>
<th>Activity</th>
<th>Type of PPE</th>
</tr>
</thead>
</table>
| Any staff member providing direct care to a Person Under Investigation (PUI) or confirmed COVID-19 patient (Including Provider, Registered Nurse, Certified Nursing Assistant, Medical Assistant, Radiology, Respiratory Therapy, Phlebotomy, Lab Techs, Rehab, Transportation etc.) | Entering room | • Procedure mask  
• Eye protection (goggles, safety glasses with side protection, or face shield. A rubber seal is not required)  
• Isolation gown  
• Gloves |
| Environmental Services, Facilities, Food Services | Entering Room | • Procedure mask  
• Isolation gown  
• Gloves |
| Visitor | Entering patient’s room | • Procedure mask  
• Isolation gown  
• Gloves |
| | Leaving patient’s room | • Procedure mask |
| Triage/Front Desk | PAS specialist/Health Unit Coordinator | • Maintain a distance of at least 6 feet  
• Give a procedure mask to the patient with respiratory symptoms  
• No PPE recommended |
| Transportation (in transit) | Transfer of patients between units | • No PPE recommended for staff |
Guidance for Aerosol-Generating Procedures

Adapted from “Guidance for Aerosol-Generating Procedures. Documentation for COVID-19” by OHSU.

Our efforts have focused on a well-informed yet rational approach to minimizing to the best extent possible the risk of nosocomial transmission of COVID-19, balanced with particular attention to conservation of vital personal protective equipment (PPE) resources. This is intended not as an exhaustive list, but rather as a practical list. Furthermore, our hope is to establish a set of “living guidelines,” which can be used in response to improved understanding of this disease and changes in medical supplies. Therefore, these guidelines are subject to revision; please check them regularly for the most up-to-date information.

Aerosol generating procedures may include (but are not necessarily limited to):
- Intubation, extubation, and related procedures such as manual ventilation and open suctioning
- Cardiopulmonary resuscitation
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy
- Some surgeries and post-mortem procedures, most notably procedures involving the airway, oral/maxillofacial region, or GI tract
- Non-invasive ventilation (NIV) such as bi-level positive airway pressure (BiPAP) and continuous positive airway pressure (CPAP) ventilation
- High-frequency oscillating ventilation (HFOV)
- Induction of sputum
- Medication administration via continuous nebulizer
- Delivery of high-flow nasal oxygen (HFNO), also called high-flow nasal cannula (HFNC), may also generate aerosol but is markedly variable
Below is a stratified priority list for the use of N95 respirators or PAPRs (in addition to eye protection, gown, and gloves) by healthcare staff participating in these procedures. This list attempts to establish different tiers of risk, and thus graduated priorities, as well as the impact of distance between patient and healthcare worker. As the pandemic evolves and supplies change, this tiered system can inform changing guidelines.

**Definition of terms:**
- Risk tier 1: Highest risk of aerosol exposure, recommended PPE should be prioritized.
- Risk tier 2: Medium risk of aerosol exposure, recommended PPE should be used when supplies are available.
- Risk tier 3: Lower risk of aerosol exposure, recommended PPE should be used when supplies are available.

**Table:** Recommended PPE (in addition to gown, gloves and eye protection) for aerosol generating procedures based on level of risk and proximity to patient during the procedure in patients with suspected or confirmed COVID-19.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Risk tier</th>
<th>Within 3 feet of patient</th>
<th>Within the immediate patient care area (approx. 6 feet of patient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sputum induction</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Anticipated breaks in the circuit during mechanical ventilation</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Home CPAP</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>&gt;20L NFNO/NFNC (adults)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>&gt;10L HFNO/HFNC (pediatrics)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>&gt;10L HFNO/HFNC (NICU)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Medication administration via continuous nebulizer</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Transesophageal echocardiogram (TEE)</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Upper GI scope</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Labor and delivery</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
</tbody>
</table>

**Other considerations:**
It is vitally important to appreciate that airborne transmission of infectious diseases is an exceedingly complex topic, dependent on myriad factors from the unique characteristics of the disease, to the air flow of the physical space surrounding an infected individual, to the distance between healthcare worker and patient. As such, it would be impossible to create with absolute certainty or reliability a list of procedures that generate aerosols of dangerous infectious transmission capacity.

At this time, healthcare staff participating in patient care NOT including any of these procedures are advised to abstain from using N95s/PAPRs and should instead wear procedural masks, in addition to the aforementioned droplet precautions (eye protection, gown, gloves).

In general, for surgeries not described above, N95/PAPR should be worn by the intubating provider and any healthcare staff within 6 feet of the intubation who cannot otherwise safely achieve this minimum distance, including during emergent intra-operative intubations. All healthcare staff who are able to maintain 6 feet distance from the intubation should do so and should abstain from using N95s/PAPRs.

At this time, patient contact limited to collection of a nasopharyngeal swab for COVID-19 testing does not require an N95/PAPR.

During transport of a patient where source control (e.g., masking the patient, closed-circuit mechanical ventilation) cannot be maintained, the person managing the airway during transport should wear the PPE indicated in the table above for the procedure in progress.
PPE Logistics
Adapted from “Personal Protective Equipment (PPE)” by OHSU.

Reminders:
- When wearing PPE, keep hands away from face.
- Limit surfaces touched.
- Discard PPE in a waste container after each use, unless the PPE is for extended use. Example: face shields, glasses, goggles, PAPR.
- Change gloves when torn, heavily contaminated, and when cleaning hands in compliance with the WHO 5 moments for hand hygiene.
- If your PPE is compromised during use or removal, your clothes and skin are likely contaminated; please put on a bunny suit or change clothing and clean exposed skin to reduce the risk of transmission to other patients and staff.

<table>
<thead>
<tr>
<th>Gown and Gloves</th>
<th>Wearing gown and gloves when:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- There is risk of clothing becoming soiled with stool, blood or other body fluids</td>
</tr>
<tr>
<td></td>
<td>- Indicated by contact, contact plus or contact and droplet precautions</td>
</tr>
</tbody>
</table>

Donning: Putting On
1. Perform hand hygiene
2. Put gown overhead. Do not tear open perforation on back.
3. Slide arms into sleeves and put thumbs through loops
4. Wrap ties around waist and tie in front.
5. Put on gloves over thumb loops so that wrists and hands are fully covered.
To perform hand hygiene during patient care, remove gloves, unhook thumb loops, rub hands with hand sanitizer or wash with soap and water, re-loop thumb loops, and don new gloves.

Doffing: Taking off
1. Untie or break waist tie by hooking thumbs under the tie and pushing down and away from your body.
2. Grab front of gown near the thighs. Slowly pull forward, up and away from your body to tear back of gown.
3. Carefully roll outside of gown inward and remove gloves with gown.
4. Perform hand hygiene.
## Gloves (without a gown)

### Wear Gloves (without a gown) when:
- There is a risk of your hands coming in contact with any type of body fluid.

### Putting on gloves:
1. Perform hand hygiene.
2. Select glove size that fits hands and put on.

### Taking off gloves:
1. Pinch outside of glove, near the wrist, with the opposite gloved hand and peel off.
2. Hold removed glove in gloved hand.
3. Carefully slide finger of ungloved hand under wrist of remaining glove and slowly peel off second glove turning it inside out.
4. Perform hand hygiene.

![Gloves Image]
**Procedure Mask**

**Wear a procedure mask when:**
- There is a splash risk to your face
- Patient is coughing or sneezing
- Indicated by droplet precautions or contact and droplet precautions
- Performing spinal injection procedures
- Unvaccinated against influenza during flu season

**Note:**
If the patient is in airborne precautions, wear N95 respirator or PAPR.

### Putting on a procedure mask:
1. Unless you have just put on a clean gown and gloves, perform hand hygiene.
2. Loop procedure mask elastics behind the ears.
3. Fit flexible band to nose bridge, ensure nose is covered.
4. Fit snug to face and below chin.

![Procedure Mask Putting on](image1)

### Taking off a procedure mask:
1. Remove all other PPE prior to taking off mask.
2. Do not touch the front of the mask, as it may be contaminated.
3. With clean hands, unhook elastics from behind ears.
4. Perform hand hygiene.
5. Place Procedure mask in clean, initialed paper bag for possible extended-use.

**Extended-use guidelines** for procedure mask and surgical masks apply to all inpatient units, procedure areas, and pre/post-surgical areas only. Surgical masks worn in surgical units (restricted areas) should be disposed of and replaced between patients.

![Procedure Mask Taking off](image2)
<table>
<thead>
<tr>
<th>Eye Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wear eye protection when:</strong></td>
</tr>
<tr>
<td>• There is a splash risk to your face</td>
</tr>
<tr>
<td>• Treating a patient with possible or confirmed emerging pathogen</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Putting on eye protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Place over eyes/face and adjust to fit.</td>
</tr>
<tr>
<td>2. Wear with a procedure mask.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Taking off eye protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Do not touch the front of the eye protection, as it may be contaminated.</td>
</tr>
<tr>
<td>2. With clean hands, remove by ear pieces or head bad.</td>
</tr>
<tr>
<td>3. Clean with disinfectant wipes (or bleach wipes for contact plus precautions) for 3 minutes or discard only if compromised.</td>
</tr>
<tr>
<td>4. Perform hand hygiene.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cleaning and extended-use of eye protection:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Goggles and safety glasses can be disinfected with disinfectant wipes and can be reused between staff members.</td>
</tr>
<tr>
<td>• Be sure to follow the contact time for the wipe used.</td>
</tr>
<tr>
<td>• Goggles or safety glasses should be discarded if they are visibly contaminated (e.g., splashed with body fluids) or if they become cracked or damaged.</td>
</tr>
<tr>
<td>• The plastic shield of the face shield can also be disinfected between uses; however the foam comfort strip cannot be adequately cleaned.</td>
</tr>
<tr>
<td>• For this reason, the face shield can be reused by the same health care worker during one shift.</td>
</tr>
<tr>
<td>• Face shields should also be discarded if they are visibly contaminated (e.g., splashed with body fluids) or if they become cracked or damaged.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eye protection notes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Eye protection should fully cover front and side of eyes</td>
</tr>
<tr>
<td>• Eye protection includes goggles, safety glasses or face shield; a tight rubber seal is not required</td>
</tr>
<tr>
<td>• Clean reusable eye protection with current disinfectant wipes</td>
</tr>
</tbody>
</table>
Imaging and Labs

Chest Imaging Recommendations
Adapted from “Chest Imaging Recommendations. Documentation for COVID-19” by OHSU.

For potential COVID-19 cases and patients under investigation (PUI) it is recommended to perform the following:

Initial imaging: If clinically indicated, should be a PORTABLE ONE VIEW CHEST radiograph to help minimize exposure of other vulnerable patients while providing appropriate initial imaging evaluation.

- Chest CT is not recommended as the initial screening tool for potential COVID-19 cases.
- A CT may be helpful in the inpatient setting to assess for complications and if it would change therapeutic management.
- All CT chest orders should be discussed with one of the cardiothoracic radiology attendings prior to order placement.
- Suspicion for COVID-19 must be indicated on the order to allow for adequate protection of the radiology staff and technologists.

Radiology Ordering Criteria
Adapted from “Department of Radiology: Ordering Criteria. Documentation for COVID-19” by OHSU.

Radiology approach considering five groups of patients:

1. Asymptomatic, not COVID-19 lab tested
2. Asymptomatic, test in anticipation of surgical aerosol generating procedure with anesthesia
3. Symptomatic, test in progress = PUI
4. Symptomatic, test positive = COVID-19
5. Symptomatic, test negative or undetermined

- Radiology is committed to providing necessary diagnostic imaging to all patients.
- For group 1 and 2 patients, radiology should be imaging as per any other patient.
- For groups 3-5, Radiology requests that orders for imaging be elevated to a provider-to-provider conversation, to ensure staff safety, see item 2 below.

1. Initial chest imaging, if clinically indicated, should be a portable one-view chest radiograph to help minimize exposure of other vulnerable patients while providing appropriate initial imaging evaluation.
   a) Provider to enter order for X-RAY PORTABLE CHEST 1 VIEW [RAD103253] for patients being worked up for COVID-19
   b) Click the appropriate COVID-19 specific indication (PUI or confirmed), now available on the chest x-ray orders, to allow for adequate protection of the technologists and triage to portable technique.
   c) Emergency Department, Trauma, Day Stay, PACU, and Inpatient Portables to take place in patient’s exam room
   d) Chest CT is not recommended as the initial screening tool for potential COVID-19 cases. A CT may be helpful in the inpatient setting to assess for complications and if it would change therapeutic management.

2. Any cross sectional (CT/MR/US/NM/PET) exams, in-department x-ray, or procedure requests for PUI and COVID-19 positive patients:
   a) Radiology provider to referring provider communication required to discuss urgency for exam or procedure and awareness for appropriate PPE.
      i) Radiology providers will reach out to referring clinician after order is placed. Should this occur before order placement, clinician may document discussion on order.
      ii) Radiologist may document in protocol or by direct communication to technologist.
   b) If exam is NOT URGENT – Ordering provider to indicate on order that the exam may be deferred until negative test result available (for PUI) or after patient recovers from COVID-19.
c) Imaging technologist to confer with referring clinician and/or radiologist if a) or b) are not documented to determine urgency.

Note that orders on asymptomatic patients including those with pre-op COVID-19 lab testing, should proceed as usual.

3. Nuclear Medicine V/Q scans
   a) Due to the increased risk of airborne transmission of COVID-19 during the ventilation portion of the V/Q scan, we are following national guidelines and performing only perfusion, not ventilation studies at this time.
   b) If a chest x-ray is also available, we can use the PISAPED instead of the PIOPED criteria for diagnosis of pulmonary embolus.
Treatment of COVID19

Triage for home versus hospital-based care

Patient Education: At-home Care for People with COVID-19

Adapted from the “At-home care for people with COVID-19” by OHSU.

Follow these guidelines to keep the virus from spreading to others.

If you are sick with COVID-19:

- **Stay in a well-ventilated (aired out) room.** Keep doors and windows open if the weather allows for it.
- **Stay in this room as much as possible.** Avoid shared spaces.
- **Open windows** to keep fresh air circulating at all times in any shared spaces you use.
- **Wear a medical mask** to keep the virus from spreading through the air.
- **Cover your mouth or nose with a tissue** when you cough or sneeze. Throw the tissue away right away. If you do not have a tissue, cough or sneeze into the bend of your elbow, not into your hands.
- **Stay away from other household members, including pets.** Do NOT have contact with your pet, to keep them from spreading the virus to others.

If you do NOT feel sick but were exposed to the virus

- Stay home for 14 days from the day you were exposed, except for if you need medical care.
- If you have been around other people since you were exposed, they do NOT need to be watched or tested, as long as you do not get symptoms of COVID-19.
- Call your primary care provider if you get any of these symptoms within 14 days:
  - Cough
  - Sore throat
  - Headache
  - Body aches
  - Fever
  - Shortness of breath

For the caregiver:

- Try to have as few caregivers as possible for the sick person.
- **Wash your hands** with soap for 20 seconds (or use hand sanitizer with at least 60% alcohol) before you care for the sick person and after you touch them or anything around them. DO NOT touch your face with unwashed hands.
- **Wear a medical mask** when you are caring for the person. If you do not have one, use a bandana or fabric facemask. Use a fresh mask each day or sooner if it becomes wet or dirty. Wash fabric masks between uses.
- Treat any used gloves (if you choose to use them) or paper masks as infectious waste: Put them in a garbage bag and tightly close the bag with a knot.
- DO NOT touch any bodily fluids (saliva, blood, urine, etc.) if possible
- DO NOT let the sick person use the same towels, bedding or eating utensils as the rest of the household. Wash the towels and bedding with regular laundry detergent. Clean dishes and eating utensils with soap and water after each use.
- **Clean all surfaces in the sick person’s room** with regular household cleaning products. Then go over them with a household disinfectant (diluted bleach, Lysol or Clorox wipes, etc.).
- **Clean the person’s bathroom** and toilet at least once a day.

For the rest of the household:

- DO NOT stay in the same room as the sick person.
- Keep at least 6 feet away from the person.
- NO VISITORS: Do not visit the sick person until their fever has been gone for 3 days AND it has been 7 days since they first felt sick.
- DO NOT touch anything used by the person (toothbrush, towels, sheets, clothes, dishes, eating utensils, etc.).
Stay connected. Friends and family are important for healing. Please stay in touch with the sick person often by phone, video chat or other electronic communication.

Treatment Guidelines for Adult Patients
Guidelines for Management of COVID-19 in Hospitalized Adult Patients
Adapted from “Treatment Guidelines for Adult Patients. Documentation for COVID-19” by OHSU.

Currently, there are no treatments for COVID-19 that are supported by evidence from clinical trials. The efficacy of the treatments included in these guidelines is unknown and the decision to use these therapies in patient care should be made on a patient-by-patient basis. The agents recommended for COVID-19 are based on limited preclinical and clinical evidence of safety and efficacy. Please also see treatments that are NOT recommended due to lack of efficacy and risk of adverse events.

1. Criteria for treatment*
   A. Documented positive (or presumptive, if state lab) test result for COVID-19 AND
   B. Patient specific criteria:
      i. Any hospitalized patient with severe lower respiratory tract disease or acute respiratory distress syndrome (ARDS) and compatible with COVID-19 infection. OR
      ii. Hospitalized patients with signs and symptoms compatible with COVID-19 infection, with or without documented lower respiratory tract disease, who are at high risk for poor outcome, as defined by any one of the following:
         a. Age ≥ 60 years old
         b. Underlying medical comorbidities (cardiac or pulmonary disease, dialysis, diabetes)
         c. Solid organ or stem cell transplant recipient
         d. Diagnosis of hematologic malignancy being treated with systemic chemotherapy
         e. Receipt of biologic agent or prednisone > 0.5 mg/kg/day (or equivalent)

* Meeting criteria for treatment requires A AND B-i or B-ii

Medications (i.e. information on commonly used and experimental treatments)
Adapted from “Treatment Guidelines for Adult Patients. Documentation for COVID-19” by OHSU.

1. Treatment regimens and principles
   A. Remdesivir: If remdesivir is available, it should be used as first-line treatment. Gilead has developed an expanded access protocol for remdesivir; however, access has remained limited.
   B. Hydroxychloroquine: Patients receiving hydroxychloroquine must undergo cardiac monitoring. Clinical studies of hydroxychloroquine are inconclusive due to design limitations and lack of peer review. English language studies are listed in the references. The optimal dosing regimen and duration for hydroxychloroquine for this indication are unknown but a reasonable regimen may be:
      i. Dosage: hydroxychloroquine 400 mg bid x 1 day followed by 200 mg bid x 4 days
      ii. Hydroxychloroquine will require ID attending approval, with further approval for release from ID Pharmacy.
   C. Important hydroxychloroquine/chloroquine drug information:
      i. Cardiac monitoring required
      ii. Hydroxychloroquine is a substrate of cytochrome P450 2C8, 3A4, and a moderate inhibitor of CYP450 2D6. An updated list of drug-drug interactions for COVID-19 therapeutics is maintained by the University of
Liverpool. The very long half-life of hydroxychloroquine, ~40 days, should be considered after the treatment course is completed.

iii. Hydroxychloroquine carries a risk of neurotoxicity. Special caution is required in patients with Myasthenia Gravis.

iv. Acute toxicity from hydroxychloroquine is rare; however, complications include QRS widening and dysrhythmia, CNS depression, hypotension and hypokalemia.

D. **Post exposure prophylaxis:** There are no trials for post exposure prophylaxis or treatment for healthcare workers. However, people who are interested may self-enroll in a randomized placebo-controlled study to receive hydroxychloroquine or placebo through the following link. [https://covidpep.umn.edu](https://covidpep.umn.edu)

E. **Not recommended:** At the current time, based on lack of clinical data showing benefit and in some cases potential for harm, we do NOT recommend ANY of the following:

i. **Lopinavir/ritonavir** or other HIV protease inhibitors are under investigation; however, an open label placebo controlled randomized trial of lopinavir/ritonavir did not show any benefit in patients with SaO2 ≤ 94%.

ii. **Azithromycin** was combined with hydroxychloroquine in several patients in a small non-randomized clinical study that evaluated detection of SARS-CoV-2.3 While the results of this study are encouraging, they are inconclusive and do not support the routine use of azithromycin in combination with hydroxychloroquine.

iii. Discontinuing or changing ACE inhibitor /ARB: Currently, the major relevant professional societies do not recommend altering therapy due to COVID-19.

iv. **Ribavirin**

v. **Interferon**

vi. **steroids** (unless strongly indicated for another reason) WHO guidelines steroids and COVID-19

vii. **tocilizumab:** There is very little supporting evidence at this time and this drug is restricted in hospital due to its need for patients with proven indications.

viii. **ivermectin:** In vitro data indicate that therapeutic concentrations would be toxic.

3. **Investigational agents:** Several investigational agents are being tested for treatment of COVID-19. Patients with severe illness may be considered for treatment with an investigational agent either in the context of a study or through compassionate use by emergency investigational drug application with the FDA. More information regarding use of investigational agents will be included here as it becomes available.

**Medication Frequently Asked Questions (FAQ)**

*Adapted from the OHSU FAQ Medical Inquiry Group. Information can change based on new evidence. For any FAQ, please refer to OHSU FAQ website for up-to-date information.*

**Should people who have/may have COVID-19 avoid ibuprofen?**

Anecdotal evidence from France suggests NSAIDs (nonsteroidal anti-inflammatory drugs, such as ibuprofen) may be linked to more severe COVID-19 symptoms. But no scientific studies support these findings. The World Health Organization recommends using acetaminophen or ibuprofen for symptom relief.

Because some doctors remain concerned about NSAIDs, it seems prudent to choose acetaminophen first to manage symptoms. But over-the-counter ibuprofen does not need to be specifically avoided.

Learn more:

- [FDA advisory](#)
- [Harvard Health Publishing on COVID-19 treatments](#)
What about IV vitamin C or herbal medicine for COVID-19?
IV Vitamin C is not recommended. No research supports its use in patients with COVID-19. Nor is there scientific evidence that any alternative remedies can prevent or cure COVID-19.

A healthy and robust immune system plays an important role in the treatment and possibly prevention of COVID-19. We recommend a healthy, balanced diet; moderate exercise; getting enough sleep; and stopping smoking.

Oral vitamin C, vitamin D and zinc in moderation are known to boost immunity, though these supplements have not been studied in relation to COVID-19. The following may be dangerous and should be avoided: ingesting bleach or hydrogen peroxide; or taking supplements in excess, including colloidal silver or vitamin D.

Learn more:
- Oregon Poison Center at OHSU warns against dangerous COVID-19 remedies circulating on social media
What is known about COVID-19 in pregnancy?
Currently available data on COVID-19 does not indicate that pregnant women are at increased risk. The World Health Organization (WHO) reports that, as opposed to influenza, pregnant women do not appear to be at higher risk of severe disease. In an investigation of 147 pregnant women (64 confirmed, 82 suspected and 1 asymptomatic), 8% had severe disease and 1% were critical. Refer to the WHO report for details.

Should pregnant health care workers take any special precautions with respect to COVID-19?
It has been recommended that pregnant health care workers follow standard precautions and adhere to recommended PPE while caring for patients with suspected or confirmed COVID-19.

Can I transmit COVID-19 to my unborn baby?
We still don’t know if a pregnant woman with COVID-19 can pass the virus to her child during pregnancy or delivery. No infants born to mothers with COVID-19 have tested positive. In addition, in these few cases, the virus was not found in samples of amniotic fluid or breast milk.
Learn more:
- CDC on pregnancy and breastfeeding

Can I breastfeed if I have COVID-19?
So far, the COVID-19 virus has not been found in breast milk. However, there is not yet enough information on whether women with COVID-19 can pass the virus through breast milk.
If you have or may have COVID-19, talk with your doctor and make a joint decision on breastfeeding. Breast milk is the best source of nutrition for most babies, and it gives babies protection against many illnesses.
Either way, take all other precautions to avoid spreading the virus to your infant. These include washing your hands and wearing a mask during contact with your baby.
Learn more:
- CDC on pregnancy and breastfeeding
- A Message for Patients, American College of Obstetricians and Gynecologists

Perinatal care (mothers, infants and breastfeeding)
Management of Mother with Newborn Suspected or Confirmed
Adapted from “Management of Mother with Newborn Suspected or Confirmed. Documentation for COVID-19” by OHSU.

<table>
<thead>
<tr>
<th>Stage of delivery</th>
<th>Medical care team (Mother+)</th>
<th>Medical care team (Baby)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OB clinic</td>
<td>Contact</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Droplet</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>Eye protection</td>
<td>N/A</td>
</tr>
<tr>
<td>L&amp;D</td>
<td>Contact</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Droplet</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>Eye Protection</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Restricted visitation**</td>
<td></td>
</tr>
<tr>
<td>Delivery room or operating room</td>
<td>Contact</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>Eye protection</td>
<td>Droplet</td>
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<tr>
<td></td>
<td>If mother is intubated: airborne</td>
<td>If mother is NOT intubated: droplet</td>
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<tr>
<td>----------------</td>
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</tr>
<tr>
<td>Resuscitation suite</td>
<td>N/A</td>
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<tr>
<td>Post-delivery</td>
<td>Contact</td>
<td>Eye protection</td>
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<tr>
<td></td>
<td>If mother is intubated: airborne</td>
<td>If mother is NOT intubated: droplet</td>
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<tr>
<td></td>
<td>Restricted visitation**</td>
<td></td>
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<tr>
<td></td>
<td>Rooming-in: same as mom***</td>
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<td></td>
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<tr>
<td>Breastmilk</td>
<td>If rooming-in: Mom should practice hand hygiene and wear facemask when breastfeeding.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>No skin to skin contact allowed with mother or visitors.</strong></td>
<td></td>
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<tr>
<td></td>
<td>Expression:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dedicated breast pump if possible.</td>
<td></td>
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<tr>
<td></td>
<td>• Mom should practice hand hygiene.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Usual cleaning of breast pump and apparatus.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bottle to be wiped down with alcohol wipes prior to storage.</td>
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</tr>
</tbody>
</table>

*Suspected: mother is person under investigation (PUI) under public health supervision
+ Within healthcare facility, mother to wear procedure mask UNLESS in a room.
**CDC recommendation is that visitors wear same PPE as healthcare workers.
***CDC recommendation is to have risk/benefit discussion and separation can be considered
   If mom decides on separation – options include:
   Separate rooms for mother and baby (baby’s room would be under standard precautions)
   Same room – 6 feet apart with physical barrier (curtain/screen).
++If baby becomes ill, please consult pediatric infectious disease on whether COVID-19 investigation and isolation is needed.
Pediatrics
Adapted from the OHSU FAQ Medical Inquiry Group. Information can change based on new evidence. For any FAQ, please refer to OHSU FAQ website for up-to-date information.

Are COVID-19 symptoms different in children than in adults?
Children and adults infected with COVID-19 have similar symptoms, though symptoms tend to be milder in children. Children also appear to have gastrointestinal symptoms more often.

What is the risk of my child becoming sick with COVID-19?
Based on available evidence, children do not appear to be at higher risk for COVID-19 than adults. While some children and infants have been sick with COVID-19, adults make up most of the known cases to date.

Learn more:
• Visit OHSU FAQ website for more frequently asked questions.
• Visit the CDC’s Frequently Asked Questions page, and scroll down to “COVID-19 and Children” to find links on:
  o Risk to children
  o Protecting children from infection
  o Whether symptoms are different in children
  o Whether children should wear masks
• The CDC also has tips on keeping children healthy while school is out
Elderly patients

Adapted from “COVID-19 Care Planning One-Pager” by Suvi Neukam, DO.

According to the CDC, older adults and people who have severe underlying medical conditions like heart or lung disease or diabetes seem to be at higher risk for developing more serious complications from COVID-19 illness.
Patients living in facilities (i.e. skilled nursing and long-term care)
Adapted from the OHSU FAQ Medical Inquiry Group. Information can change based on new evidence. For any FAQ, please refer to OHSU FAQ website for up-to-date information.

Should elderly people be taken out of long-term care facilities?
There is currently no recommendation to remove elderly people from long-term care facilities. Families and caregivers need to think carefully about removing an older patient, especially those with underlying chronic conditions.

Introducing the person to a new environment could lead to exposure. It’s important to limit contact and to follow the facility’s directions.

Learn more:
- OHSU FAQ website
- CDC on long-term care facilities and nursing homes

Healthcare workers
Criteria for Staff Exposures to Confirmed COVID-19
Adapted from “OHSU Criteria for Staff Exposures to Confirmed COVID-19” by OHSU.
Resources for Patients with Cancer
Adapted from the OHSU FAQ Medical Inquiry Group. Information can change based on new evidence. For any FAQ, please refer to OHSU FAQ website for up-to-date information.

Cancer patients represent a more vulnerable population, and it is important that we take every measure possible to protect them and to protect ourselves as we take care of them. If you have an appointment that is elective in timing (as determined by the cancer care team and agreed by the patient) it may be rescheduled to a future date, or it may be done as a virtual visit or by telephone.

Are there special precautions that people with cancer should take?
While available data is limited, the experience reported from China suggests that people with cancer may have a higher risk of severe complications compared to those without a history of cancer. This makes it increasingly important for patients with cancer to take actions to reduce the risk of getting sick with the disease. Patients with blood cancers, or those who have undergone or are undergoing bone marrow transplants (BMT’s) are among the patients considered to be of particularly high risk. As part of routine care, these patients are given special infection prevention instructions, and those remain appropriate for preventing COVID-19.

Actions to reduce risk include:
• Clean your hands often. Wash for at least 20 seconds with soap and water.
• Avoid touching your mouth, nose and eyes with unwashed hands.
• Stay home as much as possible to further reduce your risk of being exposed.
• When you must go out in public, keep away from others who are sick, limit close contact and wash your hands often.
• Avoid all non-essential travel including plane trips, and especially avoid embarking on cruise ships.
• Keep enough essentials (medications, groceries, household supplies) on-hand so that you will be prepared to stay at home for a period of time.

According to the CDC, people who have emergency warning signs for COVID-19 should call 911 right away. Emergency warning signs at home include*:
• Difficulty breathing or shortness of breath
• Persistent pain or pressure in the chest
• New confusion or inability to wake up
• Bluish lips or face
*This is not every emergency symptom or sign.

What to do if you have COVID-19 symptoms?
• Stay home and call your primary care provider.
• If needed, contact your county health department.
• Do not go to any health care facility unless instructed, so you don’t spread the virus

Additional Resources:
• Read more from the National Cancer Institute: Coronavirus: What People with Cancer Should Know.
• Read more from the CDC about actions to reduce risk: Groups at Higher Risk.
Primary Care Guidelines in the Setting of COVID Pandemic

*Outpatient clinic operations frequently asked questions*

Adapted from the OHSU FAQ Medical Inquiry Group. Information can change based on new evidence. For any FAQ, please refer to [OHSU FAQ website](#) for up-to-date information.

**What outpatient procedures/visits are considered essential?**
The Oregon Health Authority and Oregon Gov. Kate Brown recently updated guidance that they will be lifting her order delaying non-urgent procedures for health care providers, as long as they can demonstrate they have met new requirements for COVID-19 safety and preparedness. Hospitals, surgical centers, medical offices, and dental offices that meet those requirements will be able to resume non-urgent procedures on May 1.

Medical providers will need to demonstrate they have the ability to:

- Minimize the risk of coronavirus transmission to patients and healthcare workers
- Maintain adequate hospital capacity in the event of a surge in COVID-19 cases
- Support the health care workforce in safely resuming activities

Under the framework, medical providers must also demonstrate that they have an adequate amount of personal protective equipment (PPE) available for health care workers, following CDC guidance for the extended use or reuse of PPE. Hospitals must continue to report PPE supply levels daily to the Oregon Health Authority. Hospitals must also demonstrate adequate COVID-19 testing capacity when needed, including the ability to screen patients before non-urgent procedures, and follow strict infection control protocols.

Facilities that are ready to begin resuming non-urgent procedures will be required to do so gradually, in order to preserve capacity to treat COVID-19 patients. Criteria will be reassessed biweekly.

**My clinic plans on telehealth for 3 months. Is there an estimate for how long stay-home and physical distancing should continue?**
We aren’t certain yet. A lot depends on what we learn about the virus in the coming months, and how well the community is able to practice physical distancing.

Right now, stay-at-home and physical distancing orders effective from April 28th through June 30th, unless that period is extended or terminated earlier by the Governor.

**Is there guidance for outpatient settings on changing hours, workflows and spaces to separate sick from well patients?**
CDC recommendations for clinic workflows during COVID-19 list primary goals as:

- Providing the appropriate level of necessary medical care.
- Protecting health care personnel and non-COVID-19 patients from infection.
- Preparing for a potential surge in patients with respiratory infection.
- Preparing for shortages in PPE and staffing.
Specific CDC recommendations include:

- Postponing preventive visits that can’t be done virtually unless the risks of postponing are deemed to outweigh the benefits.
- Consider contacting patients who may be a higher risk of COVID-19 complications to make sure they are following medication and therapeutic regimens; to confirm they have enough refills; and to ask them to call their provider if they become ill.
- Eliminate patient penalties for missing or canceling an appointment related to respiratory illness.
- Explore alternatives to face-to-face triage and visits for the acutely ill:
  - Ask patients to use phone advice lines, patient portals and online self-assessment tools.
  - Develop protocols that enable providers to triage and assess patients before or they enter the facility or immediately upon entry.
  - Implement algorithms to identify which patients with respiratory symptoms need to be advised to seek 9-1-1 transport, go to an emergency department, or come to your facility.
  - Implement algorithms to identify which patients with respiratory symptoms possibly from COVID-19 can be managed by phone and advised to stay home, and provide clear instructions to caregivers and sick people regarding home care.
  - If possible, identify health care personnel who can monitor these patients at home with daily check-ins by phone, text, patient portals or other means.

I’ve heard nurse practitioners and physician assistants can order home care. Is there guidance?
According to a Centers for Medicare & Medicaid Services waiver issued March 30, 2020, nurse practitioners, clinical nurse specialists and physician assistants are allowed to:

- Order home health services
- Establish and periodically review a plan of care for home health services
- Certify and recertify that the patient is eligible for Medicare home health services

Preventive measures

Best Practices to Limit Exposure Risk in the Ambulatory Setting
Adapted from “Best practices to limit exposure risk in the ambulatory setting (A guide to prepare your clinics)” by OHSU.

Background:
We understand that COVID-19 is spread through droplets, contact and fomites. This means that the individuals who are sick should wear a mask to prevent spreading infectious droplets. Short interactions with patients, even those with symptoms, are very unlikely to cause the other person to be infected.

Considerations:
The safety of our employees, including psychological safety, is our highest priority. Every day our employees demonstrate their commitment to our patients, and to one another, by coming into clinic and going above and beyond to provide the best care.
We understand that employees on the frontlines are deeply concerned about the risk of exposure, even if transmission is very unlikely. It is our duty to do everything we can to ensure our teams feel safe. We must also be mindful of the current evidence and the pressing need to conserve critical resources. To that end, we have assembled best practices and steps that all clinics can take to reduce the risk of exposure and increase the sense of safety our employees feel.

Best Practices Physical Space
- Rearrange waiting room furniture to provide adequate distance between waiting room seats.
- Post signs for patients to stand 6 feet back from front desk. Consider use of a stanchion or other physical barrier to ensure distance is maintained.
- Place tape on floor at 6 feet intervals to ensure adequate spacing for patients waiting to check in.
- Check-in Process: Encourage the use of the any online patient portal check-in process (This process saves time and also limits exposure with patients).
- Identify patients requiring contact precautions in advance and perform check-in functions in the exam room while the patient is masked.
- Engage team to assess physical space and explore new ways to coordinate check-in process.
- Consider alternative options including: conducting check-in in a vehicle or with a phone call Patient Communication.
- Schedule virtual visits rather than face-to-face whenever possible.
- Triage all patients with symptoms to determine if in-person visit is appropriate or necessary.
- Contact patients the day before their scheduled appointment to determine if patient has developed symptoms and explain the visitor policy.
- Use scheduling and rescheduling guidance to inform decision-making.
- Clinic & Care Teams: Use cohort strategies to limit exposure.
  - Create care team cohorts and develop schedule and/or rotation for cohorts.
  - Create patient cohorts (well patients and sick patients). Clearly delineate when and where well patients will be seen, and when and where sick patients will be seen.
- Work collectively to explore options for treating patients outside of the normal clinic setting (i.e. surge clinic for potential COVID patients within an existing setting currently not in use).
- Consider what core functions can be maintained in a virtual space and enable as many employees to work from home as possible while maintaining core functions

De-isolation criteria for Ambulatory
Adapted from “De-isolation Criteria for Ambulatory: Documentation for COVID-19” by OHSU.

<table>
<thead>
<tr>
<th>COVID-19 De-isolation Criteria – for ambulatory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severe or immunocompromised patients¹</td>
</tr>
<tr>
<td>Symptomatic</td>
</tr>
</tbody>
</table>

¹ Transplant, hematologic malignancy, bone marrow or solid organ transplant recipients, inherited immunodeficiency, poorly controlled HIV/AIDS, etc.
<table>
<thead>
<tr>
<th>Asymptomatic</th>
<th>COVID-19 positive result</th>
<th>Remain on isolation precautions for a minimum of 14 days from illness onset. To inform de-escalation of isolation precautions, testing* can be performed when:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- At least 14 days have passed from last positive test <strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The patient has remained asymptomatic for the entire 14-day period.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Symptomatic</th>
<th>COVID-19 positive result</th>
<th>There is no testing requirement for testing to inform de-escalation of isolation precautions for this population (non-test based strategy). Isolation precautions can be discontinued if:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- At least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath) <strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- At least 7 days have passed since symptoms first appeared <strong>CDC guidelines for discontinuation of transmission based precautions in the healthcare setting.</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All other patients (those who are not severely immunocompromised)</th>
<th>COVID-19 positive result</th>
<th>Isolation precautions can be discontinued when:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- At least 7 days have passed since the last positive COVID-19 test <strong>AND</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- The individual has remained asymptomatic for the entirety of the 7-day period</td>
</tr>
</tbody>
</table>

*Testing consists of TWO COVID-19 tests (preferably NP swab for COVID-19) separated by > 24 hours.  
- If both test results are negative, isolation precautions can be discontinued.  
- If one or both of the test results is positive, the patient should remain on isolation precautions and retested in ≥ 1 week to determine next steps.*
Can we waive Medicare face-to-face encounters for home health services?
Yes, when there's an emergency, the Centers for Medicare & Medicaid Services give health care providers flexibility to make sure Americans have access to the health care they need.

In such circumstances, the secretary of the Department of Health and Human Services, using Section 1135 of the Social Security Act can temporarily modify or waive certain Medicare, Medicaid, CHIP or HIPAA requirements.

How do I do a new-patient appointment if I need to do a physical exam for billing?
The Centers for Medicare & Medicaid Services has allowed flexibility in using telemedicine for new patient services during the COVID-19 pandemic.

During the COVID-19 pandemic, the need for an in-person evaluation for new patients will be guided by history and clinical judgment.

CMS has not provided specific guidance on the requirement for physical examination. Many health systems have created ways to document physical examination (for example, affect, speech tone, content and fluency; audible and or visual ease of breathing; home blood pressure measurement; photo of a rash, etc.)

According to the Department of Consumer and Business Services and the Oregon Health Authority, the state expects health plans of all types to provide increased access to telehealth options during the pandemic to encourage patients to use telehealth and to discourage in-person services.

Are people who live out of state eligible to receive telehealth from Oregon providers?
Oregon providers are able to provide telehealth care to those living in neighboring states, though each state has its own rules. To bill for telehealth, the patient must be in Oregon.

- In California, Oregon providers must be sponsored by a California-based telehealth agency to get approval to provide care.
- In Idaho, Oregon physicians and physician assistants in good standing may provide telehealth care to Idaho residents without an Idaho license, but they should notify the Idaho Board of Medicine (info@bom.idaho.gov) of their intent.
- In Washington, Oregon practitioners must register (https://www.waserv.org/) as Emergency Volunteer Health Practitioners in Washington to provide telehealth services.

My first payment for video visits was about 30% less than normal reimbursement. How is the state ensuring proper reimbursement?
The Department of Consumer and Business Services and the Oregon Health Authority issued telehealth guidance.

Providers should contact health insurance companies for policies on coverage of audio, electronic and video telehealth services. If there are unresolved concerns, DCBS regulates commercial health plans, and OHA regulates Medicaid health plans.

Here is a summary of the guidance:
Commercial insurance: Health plans (including commercial health plans) shall cover telehealth services delivered by in-network providers to replace in-person visits whenever possible and medically or clinically appropriate. Health plans shall also examine reimbursement rates for telehealth services to ensure they are adequate for providers to increase capacity to serve patients through telehealth delivery methods. Rules for telehealth coverage may vary among commercial insurers.

Medicare: The Centers for Medicare & Medicaid Services has broadened access to Medicare telehealth services so that beneficiaries can receive a wider range of services without having to travel to a health care facility. During the COVID-19 Public Health Emergency, Medicare will make payment for Medicare telehealth services for patients in broader circumstances. These visits are considered the same as in-person visits and are paid at the same rate as regular in-person visits.

Oregon Health Plan: The OHA encourages delivering medically necessary and appropriate health services through live audio and video interaction whenever possible. Audio-only phone or a patient portal may be used to remove barriers to patients who don’t have a computer, internet access or video capability. Providers may be reimbursed at the in-person rate for phone visits when such barriers exist. In some cases, specific modifiers or place-of-service codes are needed to specify that the service was delivered by telehealth. Direct questions to OHA Provider Services at:

- 800-336-6016
- dmap.providersservices@dhsoha.state.or.us

Are phone visits reimbursed at the same rate as video visits?
Coverage of telehealth visits varies by insurance provider. Clinicians should contact health insurance companies for policies on coverage of audio, electronic and video telehealth services.

The following summarizes the guidance:

Medicare: The Centers for Medicare & Medicaid Services issued a waiver that expands the Medicare Telehealth Services benefit. Video visits are considered the same as in-person visits and are paid at the same rate as regular in-person visits. These are available for new and established patients. Medicare has approved audio-only phone visits only for 5-10 minute “virtual check-ins” with established patients; these are reimbursed at a lower rate than video visits.

Oregon Health Plan: Oregon Medicaid will reimburse video visits at the same rate as in-person services. Providers may be reimbursed at the in-person rate for using telephone-only communications when barriers to equipment and access exist. Direct questions about to OHA Provider Services at:

- 800-336-6016
- dmap.providersservices@dhsoha.state.or.us

Commercial insurance: Health plans (including commercial health plans regulated by the Department of Consumer and Business Services) shall cover telehealth services delivered by in-network providers to replace in-person visits whenever possible and medically or clinically appropriate. Rules for telehealth coverage may vary between commercial insurers.
Outpatient E&Ms via Telehealth
Adapted from the “Outpatient E&Ms via Telehealth” by OHSU.

Telehealth is two-way audio and visual communication such as using a laptop, tablet, or video chat using a smartphone.

It is NOT audio only.

NEW

STARTING DOS 3/1/20, SELECT YOUR E&M LEVEL OF SERVICE BASED ON MDM OR TIME! HISTORY AND EXAM ARE NOT REQUIRED DOCUMENTATION ELEMENTS.

<table>
<thead>
<tr>
<th>CPT</th>
<th>MDM</th>
<th>Time</th>
<th>CPT</th>
<th>MDM</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>99201</td>
<td>n/a</td>
<td>&lt;15min</td>
<td>99211</td>
<td>n/a</td>
<td>&lt;10min</td>
</tr>
<tr>
<td>99202</td>
<td>Straightforward MDM</td>
<td>15+ min*</td>
<td>99212</td>
<td>Straightforward MDM</td>
<td>10+ min</td>
</tr>
<tr>
<td>99203</td>
<td>Low MDM</td>
<td>30 min</td>
<td>99213</td>
<td>Low MDM</td>
<td>20 min*</td>
</tr>
<tr>
<td>99204</td>
<td>Moderate MDM</td>
<td>45 min</td>
<td>99214</td>
<td>Moderate MDM</td>
<td>30 min*</td>
</tr>
<tr>
<td>99205</td>
<td>High MDM</td>
<td>60 min</td>
<td>99215</td>
<td>High MDM</td>
<td>40 min</td>
</tr>
</tbody>
</table>

*The time thresholds have changed and differ from what is in the CPT book and Epic.

**FOR TIME, NEW RULES:**

✓ Face-to-face time with the patient via telehealth video
✓ Does NOT need to have >50% in counseling or coordination of care · NEW!
✓ Includes non-face-to-face time spent on the patient’s case – NEW!
  - Record review
  - Charting
  - Putting in orders
  - Talking with team/other providers

!! You must document a summary of how the time was spent !!
Primary Care COVID-19 Virtual Visit Guide
Adapted from “COVID-19: remote consultations. A quick guide to assessing patients by video or voice call” by theBMJ.
Guidelines for Obtaining Written Consent from COVID-19 PUI or Confirmed Positive Patient

Adapted from “Guidelines for Obtaining Written Consent from COVID-19 PUI or Confirmed Positive Patient. Documentation for COVID-19” by OHSU.

Instructions for person obtaining consent:
1. Separate all pages of consent form
2. Perform hand hygiene and don appropriate PPE based on posted isolation precautions.
3. Bring into the room a pen that will stay in the room, the consent form, a sheet protector for each page of consent form, and oxivir wipes
4. Clean a surface away from patient with oxivir wipes for 1 minute contact time.
5. Place sheet protector(s) on the clean surface
6. Have the patient (or consenting individual, such as a parent) cleanse their hands (ideally using soap and water, with hand sanitizer as a backup if no sink available).
7. Wipe down the surface used for signing (such as a bedside table) with Oxivir wipe for 1 minute contact time
8. Have patient or consenter sign consent form
9. Place consent form into sheet protector(s) (do not use a biohazard bag)
10. Wipe the outside of the sheet protector(s) containing consent with Oxivir wipe for 1 minute contact time and place on clean surface
11. Remove PPE appropriately, sanitize hands
12. Take sheet protector(s) containing the consent form with you as you exit the room, then wash or sanitize hands.
13. Give consents in sheet protectors to HUC or PAS

Instructions for person processing consent form (PAS or HUC):
1. Leaving consents in sheet protectors photocopy both sides by placing directly on copy machine glass
2. Dispose of consents and sheet protectors in biohazardous trash (red trash)
3. Scan consent copies into HER
**Communication skills for difficult conversations**

Vital Talk has developed a communication playbook with a super-concentrated blast of tips focused on COVID-19 for healthcare professional’s everywhere. Follow Vital Talk’s COVID Ready Communication Playbook to learn more.

**Suggested Language for COVID American College of Physicians (ACP) Conversations**

*Adapted from “COVID-19 Care Planning One-Pager” by Suvi Neukam, DO.*

### Introducing Conversation and Assessing Understanding

- “We can’t control the uncertainty about if you will get sick or how sick you may become, but we CAN control how well planned we are to make sure the care you receive is in line with your goals and preferences”
- “Spending time now exploring what you would and wouldn’t want done if you contracted COVID, helps us make sure that myself, other doctors and your family and loved ones are all on the same page” “What do you understand about COVID 19?”
- “What do you understand about the complications of COVID19 and your personal risk given your age and other medical conditions”

### Identifying Goals & Worries

- “What are your most important goals if you contracted COVID or your health situation worsens?”
- “What abilities are so critical to your life that you can’t imagine living without them?”
- “If you become sicker, how much are you willing to go through for the possibility of gaining more time?”
- “How much does your family know about your priorities and wishes?”

### Apply Health Preferences to Treatment Path

- “Thank you for sharing so openly with me. From what you have said, it sounds like focusing on (living longer, maintaining your current level of health and function, comfort) fits best with what is most important to you”

### Clarify Preferred Level of Intervention

- “Acknowledging that you would like to focus on (X), I want to review the treatment plan that fits best with these goals if you did contract COVID19 and became seriously ill. Would that be okay?”
- “Based on what you have said we would prioritize treatments that accomplish (X). This would include (appropriate examples from treatment path), and we would avoid (appropriate examples from treatment path), because the risk of you losing your (patient-identified goal- independence, function, cognition…) is very high if we did that”

### Clarify Code Status

- “Has anyone ever talked with you about CPR or have you seen it on TV?”
- “CPR is used only when someone’s heart and breathing has stopped-- when they have died. It involves forcefully pushing on the chest, often breaking ribs, blowing air in the lungs and usually a breathing tube and shocks to the heart”
- “Unfortunately, CPR is not as successful as many think. Would you like to know the chances of surviving?” “Do you know about the problems that CPR can cause?”
- “Would you like me to make a recommendation about CPR based on the goals you shared with me and what I know about your health or would you prefer to let me know your thoughts first?”
- “Based on your goals (ex- live independently, be able to care for spouse...), and I what I know about your health, it seems that you would (want/not want) CPR, is that correct?”
- “Can you tell me more about your decision for CPR and what you are hoping for?” “Is there a situation you could imagine when you (would/would not) want CPR?”

### Summarize and Thank

- “I always say let’s hope for the best and plan for the worst. I never want you or your loved ones to be in a position where you feel uncertain or rushed about your medical decisions. Thanks for taking the time now to discuss them with me so I can help make sure we are prepared”
- “Today we have reviewed what is most important to you in your general life and also health care. We have used those health priorities to choose a treatment path that fits with what you do and don’t want medically.”
“Now, I would like to spend some time documenting this conversation in a form that other health care providers and emergency responders can see, it is called the POLST, in addition to finding ways we can involve your surrogate decision maker and family. My goal is to make sure everyone is on the same page about your wishes so that we are all in the best position to advocate for you if you couldn’t speak for yourself.

Information resources

**COVID-19 information**
- [Oregon Health Authority COVID-19 Updates](https://Oregon.gov/LHDCOVID-19), including Stay Home, Save Lives materials you can download and share
- [Oregon Coronavirus Information and Resources](https://Oregon.gov/LHDCOVID-19), Oregon governor’s office
- [Coronavirus (COVID-19)](https://CDC.gov), Centers for Disease Control and Prevention (CDC)
- [What to do if you are sick](https://CDC.gov), CDC
- [People who need to take extra precautions](https://CDC.gov), CDC
- [How to prevent getting sick](https://CDC.gov), CDC
- [COVID-19 travel advisories](https://CDC.gov), CDC
- [COVID-19 guidance for businesses](https://MultnomahCounty.gov), Multnomah County Health
- [Mask information](https://CDC.gov), CDC

**Updates**
- [COVID-19 in Oregon](https://Oregon.gov/LHDCOVID-19), Oregon Health Authority
- [National and global cases and updates](https://CDC.gov), CDC
- [COVIDView, weekly summary](https://CDC.gov), CDC
- [World Health Organization daily situation reports](https://WHO.gov)

**Provider resources**
- [OHSU COVID-19 Resources for Oregon](https://OHSU.edu)
- [OHSU COVID-19 FAQ and Resources for Providers](https://OHSU.edu)
- [Oregon COVID-19 Response ECHO for Clinicians](https://OHSU.edu)
- [Psychiatry Grand Rounds: Mental Health During the COVID-19 Outbreak](https://youtube.com) (video)
- [Online CME courses, including: COVID-19 and SARS CoV-2: A Background](https://OHSU.edu)
- [CDC information on COVID-19](https://CDC.gov) for health care professionals
Employee & Staff Wellness

Adapted from the “Wellness Resources” by the OHSU Wellness Task Force.

Stress relief and managing anxiety

- **FACE COVID: How to Respond Effectively to the Corona Crisis.** Developed by Dr. Russ Harris, this [video](#), [eBook](#) and [infographic](#).
- **Get some Headspace.** Any U.S.-based health care professional can get a [free Headspace Plus subscription](#) by enrolling with their National Provider Identifier (NPI). All subscribers will get free access to all 1200+ hours of meditation and mindfulness content through December 31, 2020. Don’t remember your NPI? [Look it up here](#).

Support for caregivers, families and children

COVID and kids

- **Talking to Youth about COVID-19**, by Dr. Linda Schmidt. [Watch the recording](#) of the March 26 Doernbecher Children's Hospital Pediatrics Grand Rounds presentation, or [earn CME](#) by completing the [online module](#).
- **Understanding COVID Workbook for Kids**
- **Talking to your child about COVID-19** — 20-minute video from the American Academy of Pediatrics (AAP) about talking about COVID-19 with your child
- **Helping Children Cope with Changes Resulting from COVID-19**
- **Talking to Children about Tragedies and other News Events**
- **COVID-19: Supporting At-Home Children**

Entertainment

- **Virtual Field Trips**
- **Virtual National Park Tours via Google Earth**
- **Online museum tours**
- **GoNoodle exercise resource**

Education

- **Free Mystery Science lessons for kids K-5**
- **Free Scholastic multi-curricular lessons for kids K-6** with code SCHOOL1446
- **Online school schedules by grade from Kahn Academy**
- **OPB has adjusted its TV schedule to support K-12 students with grade level and subject-based programs during the coronavirus outbreak.** [View the broadcast schedule](#)

Older Adults

- **CDC COVID-19: If You Are At Higher Risk**
- **Coronavirus: What Older Adults Need to Know**
- **How Coronavirus Affects Older Adults**
- **Why Coronaviruses Hit Older Adults Hardest**
- **Families Concerned About Loved Ones in Nursing Homes, Assisted Living**
Physical wellness
Many fitness studios and gyms are now offering free, guided workouts online. Here are a few:

- **Orange Theory**
- **BurnCycle**
- **CorePower Yoga** — free live classes streaming at 8 a.m., 1 p.m. and 6 p.m. (videos also available).
- **Barry's Bootcamp** — live workouts streaming twice a day (8 a.m. and noon).
- **Firelight Yoga** — live classes streaming daily.
- **BurnMVMT** — a local business offering free workout videos and guided meditations.

Financial Assistance
**Oregon unemployment**
Criteria for unemployment benefits have expanded during COVID-19. UI benefits may be available to those who are on a temporary layoff. These benefits occur for claimants whose employer stops operation for a short period of time, such as cleaning following a coronavirus exposure or by government requirement. Workers can get UI benefits, and do not need to seek work with other employers. You must be able to work, stay in contact with your employer and be available to work when called back. [Apply here.](#)

Utilities and ancillary services
NW Natural, Portland General, Pacific Power as well as others are suspending disconnects and late fees to support Oregonians during the COVID-19 outbreak. Check the [Oregon Office of Emergency Management](#) for details or contact your provider directly:

- Portland General Electric (PGE): Find payment extension information online.
- Pacific Power: Call customer service at 888-221-7070.
- Portland Water Bureau: Apply for financial assistance online.
- NW Natural: Contact the billing department at 800-226-4211.
- Comcast is offering free and expanded services over the next 60 days, including free Wi-Fi hotspots, unlimited data for customers, and a temporary pause on disconnects and late fees.

Eviction moratoriums
Governor Kate Brown and Governor Jay Inslee issued temporary moratoriums on all residential evictions for tenants on the basis of non-payment of rent, and the [U.S. Department of Housing and Urban Developments](https://www.hud.gov) is helping to prevent foreclosures and evictions for home owners. See also: [Multnomah County/City of Portland COVID-19 Eviction Moratorium](#).

Psychological support
**24/7 support**
[Crisis Text Line](https://crisis-text-line.org)
Text HELLO to 741741

[National Suicide Prevention Lifeline](https://www.suicidepreventionlifeline.org)
1-800-273-8255

[Caring for Clinicians](#)
Caring for Clinicians: COVID-19 webinars every Saturday

Resilience-building strategies and resources
We would like to highlight these resilience-building strategies and resources, which can protect your well-being during this challenging time:
Self-awareness is the first step
- Reflect on where you feel your stress in your body and what “bad habit” you engage in more when stressed (e.g., eating unhealthy, staying up late, and drinking more).
- Pause daily to notice signs of stress, and check in with your emotions.
- If you notice your stress level is higher, take action to reduce your stress.

Calm body, calm mind
- Exercise daily — taking a quick walk, running the stairs or doing some core work can help reduce stress hormones and improve mood and focus.
- Practice relaxation skills — breathing, mindful meditation or progressive muscle relaxation (tightening and then relaxing different parts of the body). Here are a few apps for learning relaxation skills/mindfulness:
  o headspace.com
  o calm.com
  o UCLA Mindful (free)
  o Insight timer (free)
  o Portland Mindful Medicine (online meetings for health professionals)
- Take at least a 10-minute break and step out of your work context for a brief time.
- Develop a healthy ritual for when you return home to help you disconnect from work and be more present for your family, friends and for yourself:
  o “Park your phone,” if possible
  o Change your clothes
  o Take a hot shower
  o Go for a walk or exercise after work
  o Listen to music
  o Check in with a loved one

Prioritize basic self-care
- Prioritize sleep (eight hours is recommended for most adults).
- Stay hydrated and eat healthy. Try not to skip meals, and bring food and water to work.
- Reduce any unhealthy use of substances or stress eating.
- Take time off — before you become depleted.
- When feeling ill, use your sick leave — protect others by not coming into work.

Maintain or increase social connection
- Check in regularly with family and close friends.
- Reach out via telehealth, phone or text to your colleagues, staff, learners and patients
- Confide in someone you trust. Reassurance is fine to seek— you’re human, too.

Notice meaningful and positive experiences
- Pay attention to the daily moments of meaning and purpose in your professional work.
- Reflect on your values and how you might use these values to guide you.
- Identify your personal goals, try to move toward them and notice small progress. This helps facilitate a sense of control in the face of so many changes.
- Recognize what is going well in your life — gratitude journaling of “one good thing that happened today” can help improve your mood.

Act with kindness and appreciate others’ efforts
- Recognize other people’s efforts — sending them a note of appreciation can lift your mood, too.
- Ask others how you can help.
- Include appreciative inquiry in group discussions/meetings.
• Invite others to comment on something they appreciated about the team’s efforts — perhaps they noticed a colleague who went the extra mile, or something that gives them joy or hope. This type of discussion can increase the positive mood of team members.

• Consider ways to post and share with your team some messages of hope, support and appreciation — virtually or in a visible work area (out of patient care areas).

**Recognize growth**

• Ask yourself how you might grow or learn from this experience.

• Recognize what strengths you are drawing upon to cope with this situation.

• Notice the ways that your colleagues are using their strengths and skills.

**Suicide Prevention**

Early data suggests increased rates of depression and suicidality since the start of the COVID-19 public health crisis. Whether you are the one experiencing suicidal thoughts or you are here to help another person, we thank you for being here. **You are not alone. Help is available.**

**Connect with support**

Crisis resources are still available during this pandemic.

• National Suicide Prevention Lifeline 24/7: 800-273-8255

• Alcohol and Drug Helpline 24/7: 800-923-4357 24/7

• Mobile County Crisis Teams
  o Multnomah County “Project Respond” 503-988-4888
  o Washington County Mobile Crisis Team 503-291-9111

• Mental Health Urgent Care
  o Multnomah County Cascadia Walk-In Clinic 503-963-2575 Daily 9 a.m.–9 p.m.
  o Washington County Hawthorn Walk-In Center 503-846-4555 Daily 9 a.m.–8:30 p.m.

• Call to Safety: Domestic and Sexual Violence 503-235-5333

• Suicide Bereavement Support: [https://afsp.org/support_group/suicidebereavement-support-inc/](https://afsp.org/support_group/suicidebereavement-support-inc/)

• Food, housing, health, and other resources: 2-1-1

**Learn more**

• The [American Foundation for Suicide Prevention](https://afsp.org) offers resources for those whose lives have been touched by suicide. Their website features COVID19-specific discussion of mental health as well as resources specific to health professionals.

• The [National Suicide Prevention Lifeline](https://www.suicidepreventionlifeline.org) offers a wealth of suicide prevention resources online. Check out the “Stories of Hope and Recovery” section to hear stories about healing.

**Spiritual support**

**Grief**

[A Nation’s Grief: Loss in the Time of COVID-19](https://www.oahs.org) (12:45) — Led by Susan Hedlund, LCSW, OSW-C, director of patient/family support services at the OHSU Knight Cancer Institute and senior scholar with the Center for Ethics. This webinar, recorded from a presentation on April 6, 2020, is less about traditional grief as we know it and more a consideration of the collective grief we feel as a nation during this pandemic.

**Online worship services**

Online worship services and various resources are available for spiritual support by denomination/religion (this is not an exhaustive list):

• Catholic
Daily Prayer and Meditation

- **Our Daily Bread**
- Meditation apps
- Free online Buddhist meditation session with well-known teachers
- Pray as You Go

Interpersonal relationships

These stressful times can present unique challenges for relationships. If you are experiencing increased conflict, feelings of disconnect, or communication-related issues in your partnership, you are not alone. The following resources may be helpful as you navigate these stressful times.

- The New York Times: [How to Help Your Relationship Survive a Lockdown](#)
- Time magazine: [Can Your Relationship Survive the Togetherness of a Pandemic? 11 Things Couples' Therapists Recommend](#)
- CNN Health: [Can your marriage survive the coronavirus?](#)
References

- https://www.who.int/news-room/q-a-detail/q-a-coronaviruses
- https://covidpep.umn.edu/
- https://www.health.harvard.edu/diseases-and-conditions/treatments-for-covid-19
- https://www.cancer.gov/contact/emergency-preparedness/coronavirus
- https://www.vitaltalk.org/guides/covid-19-communication-skills/
Ambulatory & Mobile COVID-19 Testing Delegation Protocol

Title: Ambulatory & Mobile COVID Testing Delegation Protocol

Creation Date and Time: 03/24/2020 1330

Employee Roles Impacted:
RN, MA, MDs in the Ambulatory setting

Modified Date: 04/08/2020

Review by Date: 09/26/2021

Primary Department:
Primary Care and Population Health

Description:

PURPOSE:
This Delegation Protocol provides direction for OHSU Health patients and community members that desire to be registered as patients in the OHSU Health system to screen for COVID-19 based on specific criteria outlined below. This protocol is intended to provide direct and timely access to screening and specimen collection for patients with COVID-19 exposure or suspected respiratory illness based on best available evidence. The protocol affects an unknown quantity of patients, but thought to be in the thousands, given the current pandemic.

DEFINITIONS:
CDC – Centers for Disease Control
COVID-19 – Novel coronavirus, described in 2019
IHR – Integrated Health Record
Isolation – separates sick people with a contagious disease from people who are not sick
MRN – Medical Record Number
NP – Nasopharyngeal
OHA – Oregon Health Authority
OP – Oropharyngeal
PCP – Primary Care Provider
Quarantine – separates and restricts the movement of people who were exposed to a contagious disease to see if they become sick
WFM – Workforce Member

STAFF AUTHORIZED TO INITIATE THE DELEGATION PROTOCOL AND DEMONSTRATED COMPETENCIES:
Authorized staff includes licensed Registered Nurses (RN), and Medical Assistants (MA) who are trained in the performance of Nasopharyngeal (NP) collection for screening.
Description continued:

**INCLUSION CRITERIA:**
1. 2 months and older
2. Patient or parent consent for testing – COVID-19
3. Completion of RN triage screening supporting criteria for testing defined by OHSU COVID-19 Task Force, “COVID-19 testing in the Ambulatory Setting”

**EXCLUSION CRITERIA:**
1. Asymptomatic
2. Work-related infectious disease exposure (influenza, COVID-19, etc.) or Workforce Member (WFM)

**PROTOCOL:**
Patient will be provided with services based on their evaluated epidemiologic and clinical risks. These services will be provided in accordance with best practices indicated by OHA, CDC, and the OHSU COVID-19 Task Force.

Test Collection Site
1. Ensure patient is given a regular mask upon arrival. If caregiver and/or accompanying people have respiratory symptoms, encourage mask use for those people as well.
2. Check-in/Registration and MyChart activation per standard process.
3. Provide patient information handout explaining the testing that will be done as well as the billing/financial cost information.
4. RN to screen patient for testing using IHR “COVID-19 Screening” Form that aligns with ambulatory criteria designated on the COVID-19 webpage.
   
   **A. Patient does not meet criteria for testing indicated:**
   i. Patient does not meet criteria → provide "Home Care" handout
   ii. Patient requires higher level of care indicated after RN assessment → provide info on where to seek care.

   **B. Testing is indicated after RN screen**
   i. RN will enter order for the following testing using per “Delegation Protocol” order mode, then sign: COVID-19 (Outpatient) [LAB103362]
   ii. RN will provide patient with pre-printed instructions:
      1. Post-testing information
      2. Work/school release with self-quarantine information
Description continued:

5. Medical Assistant to print 1 order label (for COVID-19 test), don appropriate PPE, then collect sample.
   1. Sample may be nasopharyngeal (NP) swab OR oropharyngeal (OP) swab.
   2. Appropriately label swab and store sample per standard.
   3. Samples sent to OHSU Core Lab.
6. MA to close encounter.
7. Authorizing provider will be Steve Kassakian MD.

Management of COVID-19 Test Results
1. Central pool utilized for management of all results.
2. If patient does NOT have a MyChart account set up, or if patient is a non-English-speaker, then RN to make phone call for positive or negative results (with appropriate interpreter), per #3 and #4 below.
3. If patient has a MyChart account:
   A. If COVID-19 test negative, send patient MyChart message, ".covid19testnegative"
   B. If COVID-19 test positive, start telephone encounter using ".covidtestpositive" and call patient
   C. and call patient
      i. Give patient results verbally and release to MyChart
      ii. Alert patient that sample may be sent to Oregon State Lab/CDC for confirmatory testing
      iii. Discuss isolation/quarantine per OHSU and CDC Criteria/Guideline after evaluation of time course of illness and current symptoms
      iv. Public health department will be notified of the patient's result when using the .covidtestpositive dot phrase.
      v. Copy chart note to PCP as FYI only (if patient identifies PCP)
      vi. Route patient call to patient call folder noting what date to call the patient back in seven (7) days.

METHOD OF DOCUMENTING THAT THE DELEGATION PROTOCOL WAS USED TO INITIATE CARE:
The RN will enter orders using Per “Delegation Protocol” order mode using a (Smartset or orderset) and sign the order. When not using a Smartset, a standard Smartphrase must be used to document the use of the protocol.
Description continued:

**Literature Demonstrating That The Delegation Protocol Is Evidence-based (If Any):**
1. Oregon Health Authority
2. Centers for Disease Control
3. WHO
4. OHSU

**Reviewed By:**
Interdisciplinary development occurred by all Ambulatory and Occupational Health leaders with review and approval by the Delegation Protocols and Protocol Orders Steering Committee and the Clinical Knowledge and Therapeutics Executive Committee.

**Title, Protocol Owner:**
Johanna Warren, MD

**Responsible Parties for Reviewing and Implementing Protocol**
Eric Herman, MD, Chief Primary Care & Population Health Officer
Julie Johnson, RN, Director of Ambulatory Nursing

**Approving Committee(s):**
Delegation Protocols and Protocol Orders Steering Committee
Clinical Knowledge and Therapeutics Executive Committee
Best practices to limit exposure risk in the ambulatory setting
(A guide to prepare your clinics)

Background
From our own OHSU Infectious Disease Physicians we understand that COVID-19 is spread through droplets, contact and fomites. This means that the individuals who are sick should wear a mask to prevent spreading infectious droplets. Short interactions with patients, even those with symptoms, is very unlikely to cause the other person to be infected.

Considerations
The safety of our employees, including psychological safety, is our highest priority. Every day our employees demonstrate their commitment to our patients, and to one another, by coming into clinic and going above and beyond to provide the best care.

We understand that employees on the frontlines are deeply concerned about the risk of exposure, even if transmission is very unlikely. It is our duty to do everything we can to ensure our teams feel safe. We must also be mindful of the current evidence and the pressing need to conserve critical resources. To that end, we have assembled best practices and steps that all clinics can take to reduce the risk of exposure and increase the sense of safety our employees feel.

Best Practices

**Physical Space**
- Rearrange waiting room furniture to provide adequate distance between waiting room seats
- Post signs for patients to stand 6 feet back from front desk. Consider use of a stanchion or other physical barrier to ensure distance is maintained.
- Place tape on floor at 6 feet intervals to ensure adequate spacing for patients waiting to check in

**Check-in Process**
- Encourage the use of the MyChart check-in process (This process saves time and also limits exposure with patients)
- Identify patients requiring contact precautions in advance and perform check-in functions in the exam room while the patient is masked
- Engage team to assess physical space and explore new ways to coordinate check-in process
- Consider alternative options including: conducting check-in in a vehicle or with a phone call

**Patient Communication**
- Schedule virtual visits rather than face-to-face whenever possible
- Triage all patients with symptoms to determine if in-person visit is appropriate or necessary
- Contact patients the day before their scheduled appointment to determine if patient has developed symptoms and explain the visitor policy
- Use scheduling and rescheduling guidance to inform decision-making

**Clinic & Care Teams**
- Use cohort strategies to limit exposure
  - Create care team cohorts and develop schedule and/or rotation for cohorts
  - Create patient cohorts (well patients and sick patients). Clearly delineate when and where well patients will be seen, and when and where sick patients will be seen.
- Work collectively with OHSU to explore options for treating patients outside of the normal clinic setting (i.e. surge clinic for potential COVID patients within an existing setting currently not in use)
- Consider what core functions can be maintained in a virtual space and enable as many employees to work from home as possible while maintaining core functions
Chest Imaging Recommendations
Documentation for COVID-19

Title: Chest Imaging Recommendations

Creation Date and Time: 03/09/2020 0949

Employee Roles Impacted:
Cardiothoracic Imaging, Department of Radiology Staff

Modified Date:

Review by Date: 03/19/2021

Sponsoring Department:
Department of Diagnostic Radiology

Description:
For potential COVID-19 cases and patients under investigation (PUI), the Cardiothoracic Imaging Section in the OHSU Department of Diagnostic Radiology recommends the following:

- Initial imaging: If clinically indicated, should be a PORTABLE ONE VIEW CHEST Radiograph to help minimize exposure of other vulnerable patients while providing appropriate initial imaging evaluation.
  - Chest CT is not recommended as the initial screening tool for potential COVID-19 cases.
  - A CT may be helpful in the inpatient setting to assess for complications and if it would change therapeutic management.
  - All CT chest orders should be discussed with one of the Cardiothoracic Radiology attendings prior to order placement.
- Suspicion for COVID-19 must be indicated on the order to allow for adequate protection of the Radiology staff and technologists.
COVID-19 Care Planning

Understanding the Reality of COVID for Older Adults

**Level of Care**
- Hospitalization:
  - 65-84 yo: 31-59%
  - >85 yo: 31-70%
- Admission to ICU:
  - 65-84 yo: 11-31%
  - >85 yo: 10-27%

**Progression of Illness**
- Rapid: hours to days
- Chaotic: AMS, high use of sedating meds
- Confusing: separated from family and friends

**Mortality**
- 80% of deaths >65 yo
- Mortality Rate:
  - 64-85 yo: 4-11%
  - >85 yo: 10-27%

**Admission + Isolation**

### TAKE HOME POINT

Not all elders who acquire COVID19 will experience a severe infection.

But, if an older adult is sick enough to consider advanced levels of care, we should be worried about their outcomes, including survival.

### Identifying Patient's Health Care Goals

1. Introduce Conversation & Assess Understanding
2. Identify Goals and Worries (aka Health Priorities)
3. Apply Health Priorities to Treatment Path
4. Clarify Preferred Level of Intervention
5. Clarify Code Status
6. Summarize and Thank

### Health Priority vs Potential Cause for Loss of Priority

- **Independence**
  - Need to go to SNF, inability to live alone, need for caregivers, inability to be caregiver for loved one...
- **Communication**
  - Intubation, sedation, complications of stroke or intubation, progressive cognitive impairment...
- **Cognitive Awareness**
  - Post-hospitalization delirium, new cognitive impairment, requirement for new centrally acting medications...
- **Time with Loved Ones**
  - Quarantine, isolation while in hospital or SNF, decreased interactions due to intubation/sedation...
- **Physical Function**
  - Deconditioning (baseline never regained), complications of stroke or anoxia...
- **Avoidance of Pain**
  - Intubation/ventilation, procedures, hospital stay, severe symptoms

### Treatment Path

- **Longevity Focus**
  - Maintain Health/Function
  - Comfort Oriented
  - Full
  - Limited
  - Comfort
  - May Include: ICU, ventilation, long term tube feedings, IV medications, IVF...
  - May Include: hospital (non-ICU), NIPPV, IV, IV Abx...
  - Does NOT Include: CPR, intubation, ventilation
  - May Include: hospital for symptom control, oxygen, suction, PO meds, fluids & nutrition...
  - Does NOT Include: CPR, intubation, ventilation

### Code Status

- Full
- DNR
- Do Not Resuscitate

### References:

- [COVID-19 Care Planning](https://www.oregonhealthauthority.org/covid-19/care-planning)
Suggested Language for COVID ACP Conversations

Introducing Conversation and Assessing Understanding
"We can’t control the uncertainty about if you will get sick or how sick you may become, but we CAN control how well planned we are to make sure the care you receive is inline with your goals and preferences”
“Spending time now exploring what you would and wouldn’t want done if you contracted COVID, helps us make sure that myself, other doctors and your family and loved ones are all on the same page”
“What do you understand about COVID 19?”
“What do you understand about the complications of COVID19 and your personal risk given your age and other medical conditions”

Identifying Goals & Worries
“What are your most important goals if you contracted COVID or your health situation worsens?”
“What abilities are so critical to your life that you can’t imagine living without them?”
“If you become sicker, how much are you willing to go through for the possibility of gaining more time?”
“How much does your family know about your priorities and wishes?”

Apply Health Preferences to Treatment Path
“Thank you for sharing so openly with me. From what you have said, it sounds like focusing on (living longer, maintaining your current level of health and function, comfort) fits best with what is most important to you”

Clarify Preferred Level of Intervention
“Acknowledging that you would like to focus on (X), I want to review the treatment plan that fits best with these goals if you did contract COVID19 and became seriously ill. Would that be okay?”
“Based on what you have said we would prioritize treatments that accomplish (X). This would include (appropriate examples from treatment path), and we would avoid (appropriate examples from treatment path), because the risk of you losing your (patient-identified goal- independence, function, cognition...) is very high if we did that”

Clarify Code Status
“Has anyone ever talked with you about CPR or have you seen it on TV?”
“CPR is used only when someone’s heart and breathing has stopped- when they have died. It involves forcefully pushing on the chest, often breaking ribs, blowing air in the lungs and usually a breathing tube and shocks to the heart”
“Unfortunately, CPR is not as successful as many think. Would you like to know the chances of surviving?”
“Do you know about the problems that CPR can cause?”
“Would you like me to make a recommendation about CPR based on the goals you shared with me and what I know about your health or would you prefer to let me know your thoughts first?”
“Based on your goals (ex- live independently, be able to care for spouse...), and I what I know about your health, it seems that you would (want/not want) CPR, is that correct?”
“Can you tell me more about your decision for CPR and what you are hoping for?”
“Is there a situation you could imagine when you (would/would not) want CPR?”

Summarize and Thank
“I always say let’s hope for the best and plan for the worst. I never want you or your loved ones to be a position where you feel uncertain or rushed about your medical decisions. Thanks for taking the time now to discuss them with me so I can help make sure we are prepared”
“Today we have reviewed what is most important to you in your general life and also health care. We have used those health priorities to choose a treatment path that fits with what you do and don’t want medically.”
“Now, I would like to spend some time documenting this conversation in a form that other health care providers and emergency responders can see, it is called the POLST, in addition to finding ways we can involve your surrogate decision maker and family. My goal is to make sure everyone is on the same page about your wishes so that we are all in the best position to advocate for you if you couldn’t speak for yourself.”
OHSU HOSPITAL

At-home care for people with COVID-19
How to protect patients, families and caregivers

Follow these guidelines to keep the virus from spreading to others.

If you are sick with COVID-19

- Stay in a well-ventilated (aired out) room. Keep doors and windows open if the weather allows for it.
- Stay in this room as much as possible. Avoid shared spaces.
- Open windows to keep fresh air circulating at all times in any shared spaces you use.
- Wear a medical mask to keep the virus from spreading through the air.
- Cover your mouth or nose with a tissue when you cough or sneeze. Throw the tissue away right away. If you do not have a tissue, cough or sneeze into the bend of your elbow, not into your hands.
- Stay away from other household members, including pets. Do NOT have contact with your pet, to keep them from spreading the virus to others.

For the caregiver

- Try to have as few caregivers as possible for the sick person.
- Wash your hands with soap for 20 seconds (or use hand sanitizer with at least 60% alcohol) before you care for the sick person and after you touch them or anything around them. Do NOT touch your face with unwashed hands.
- Wear a medical mask when you are caring for the person. If you do not have one, use a bandana or fabric facemask. Use a fresh mask each day or sooner if it becomes wet or dirty. Wash fabric masks between uses.
- Treat any used gloves (if you choose to use them) or paper masks as infectious waste: Put them in a garbage bag and tightly close the bag with a knot.
- Do NOT touch any bodily fluids (saliva, blood, urine, etc.) if possible.
For the caregiver (continued)

- Do NOT let the sick person use the same towels, bedding or eating utensils as the rest of the household. Wash the towels and bedding with regular laundry detergent. Clean dishes and eating utensils with soap and water after each use.
- Clean all surfaces in the sick person's room with regular household cleaning products. Then go over them with a household disinfectant (diluted bleach, Lysol or Clorox wipes, etc.).
- Clean the person’s bathroom and toilet at least once a day.

For the rest of the household

- Do NOT stay in the same room as the sick person.
- Keep at least 6 feet away from the person.
- NO VISITORS: Do not visit the sick person until their fever has been gone for 3 days AND it has been 7 days since they first felt sick.
- Do NOT touch anything used by the person (toothbrush, towels, sheets, clothes, dishes, eating utensils, etc.).
- Stay connected. Friends and family are important for healing. Please stay in touch with the sick person often by phone, video chat or other electronic communication.

If you have any questions about COVID-19 symptoms and care, please call the OHSU Health COVID-19 Hotline at 833-OHSU-CCC (833-645-8222) between 8 a.m. and 8 p.m., 7 days a week.
OHSU HEALTH
Testing for COVID-19
What to do after your test

Getting your test results

- It takes 2 days to get your test results.
- We will send your test results to your OHSU MyChart account. Go to www.ohsu.edu/mychart learn more and sign up.
- If your test result is negative, it means that you do NOT have COVID-19 at this time. We will call you or send you a message in MyChart to let you know your test result.
- If your test result is positive, we will call you to let you know that you have the virus. We will also ask how you are feeling and talk with you about what you should do next.

If you are feeling sick

- Stay home and keep away from other people and pets in your home if you have any of these symptoms (even if you do NOT test positive for COVID-19):
  - Cough
  - Sore throat
  - Headache
  - Body aches
  - Fever
  - Shortness of breath
- Wear a cloth covering to cover your mouth and nose if you must be around other people, even at home.
- Cover your mouth or nose with a tissue when you cough or sneeze. Throw the tissue away and wash your hands for 20 seconds (or use hand sanitizer) right away.
- Do NOT share household items such as bedding, towels or dishes with others in the home.
- NO VISITORS: Stay away from others until your fever has been gone for 3 days AND it has been 7 days since you first felt sick. Then, return to staying 6 feet apart.
If you do NOT feel sick but were exposed to the virus

- Stay home for 14 days from the day you were exposed, except for if you need medical care.
- If you have been around other people since you were exposed, they do NOT need to be watched or tested, as long as you do not get symptoms of COVID-19.
- Call your primary care provider if you get any of these symptoms within 14 days:
  - Cough
  - Sore throat
  - Headache
  - Body aches
  - Fever
  - Shortness of breath

When to call your doctor

- Call your primary care provider if your symptoms get worse.
- Call your nearest emergency room if you have any of these warning signs (and let them know you might have COVID-19):
  - Trouble breathing or shortness of breath
  - Ongoing pain or pressure in your chest
  - New confusion
  - Bluish lips or face

If you have any questions about COVID-19 symptoms and care, please call the OHSU Health COVID-19 Hotline at 833-OHSU-CCC (833-647-8222) between 8 a.m. and 8 p.m., 7 days a week.
COVID-19 Workflow: Positive Result, Inpatient
Documentation for COVID-19: Adult and Pediatric

Title: COVID-19 Workflow: Positive Result, Inpatient
Creation Date and Time: 03/31/2020 1200
Employee Roles Impacted: Inpatient Clinicians
Modified Date: 04/14/2020
Sponsoring Department: Medical Branch (Operations)
Review by Date: 04/02/2021

CORE LAB

Alerts RN in unit
Visible in EPIC result

RN alerts responsible provider
Send email notification to distribution list: inpatientCOVIDresults@ohsu.edu

Infection Prevention & Control
- Add patient to roster
- Round in inpatient unit; ensure proper precautions, room log and supplies (during daytime, on call as needed)
- Report at next EOC

AOD (Pager# 12241)
- Alert Incident Commander
- Notify Public Safety
- Alert inpatient manager or cluster manager on call
- Page Logistics (#10223)
- Page Equipment Pool (#10667)

Inpatient COVID MD (Pager# 15176)
- Connect with patient’s attending for assistance needs
- Notify Strat Comm

Decision on Action by Incident Commander

Title: COVID-19 Workflow: Positive Result, Ambulatory and ED
Employee Roles Impacted: Inpatient Clinicians
Sponsoring Department: Medical Branch (Operations)

**CORE LAB**

- Result visible in Epic
- Send email notification to distribution: AmbulatoryCOVIDResults@ohsu.edu
- Infection Prevention & Control
  - Add patient to roster
  - Report at next EOC
- Automatic via Epic
- COVID-19 Results Pool
  - RN pool receives result when visible in Epic
  - Responsible for patient notification, health department notification, and patient follow-up
- Ambulatory/Outpatient COVID MD (Pager# 17379)
  - Receives positive test results

Creation Date and Time: 03/31/2020 1200
Modified Date: 04/14/2020
Review by Date: 04/02/2021
COVID-19 Workflow: Negative Result, Ambulatory & ED
Documentation for COVID-19: Adult and Pediatric

Title: COVID-19 Workflow: Negative Result, Ambulatory and ED
Creation Date and Time: 03/31/2020 12:00
Employee Roles Impacted: Inpatient Clinicians
Modified Date: 04/14/2020
Sponsoring Department: Medical Branch (Operations)
Review by Date: 04/02/2021

Result visible in Epic

CORE LAB

Automatic via Epic

COVID-19 Results Pool
- RN pool receives result when visible in Epic
- Responsible for patient notification
COVID-19 Workflow: All Results, Tuality, MCMC, Adventist

Title: COVID-19 Workflow: All Results, Tuality, MCMC, Adventist
Employee Roles Impacted: Inpatient Clinicians
Sponsoring Department: Medical Branch (Operations)

Result visible in Epic

CORE LAB

PHONE NUMBERS
Tuality:
503-681-1140
MCMC:
541-296-7225

Tuality, MCMC, or Adventist

OHSU calls results to appropriate hospital lab and informs them of the result.
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<th><strong>Creation Date and Time:</strong> 03/31/2020 1200</th>
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<td><strong>Sponsoring Department:</strong> Medical Branch (Operations)</td>
<td><strong>Review by Date:</strong> 04/02/2021</td>
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Alerts RN in unit Visible in EPIC result

Page first call provider

ISO Version Control: HC-CE-109.01-COV-P04 Rev.041420
COVID-19 Workflow: Positive Result, Healthcare Personnel

**Title:** COVID-19 Workflow: Positive Result, Healthcare Personnel

**Employee Roles Impacted:** Inpatient Clinicians

**Sponsoring Department:** Medical Branch (Operations)

**Creation Date and Time:** 03/31/2020 1200

**Modified Date:** 04/14/2020

**Review by Date:** 04/02/2021

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**CORE LAB**

- Alerts Occupational Health (OH) Pager 10106, email to OccHealth@OHSU.edu, and fax lab results.
- Not visible in Epic result.
- OH will notify worker of test result, review exclusion criteria, and advise that they discuss with their exclusion status with their manager ASAP.
- OH will notify health department of residence.
- Prepare with affected HCP a list of other HCP’s who had significant exposure. An email communication will be sent out to HCP’s to report their exposure using on-line reporting tool. Quarantine of asymptomatic HCP’s will only occur in special circumstances.
- OH will notify manager that worker should be on sick leave. We cannot disclose reason.
- OH will report out at the next EOC meeting.

---

**AOD (Pager #12241): Alert only if affects critical staffing**

- Alert Incident Commander prn

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**COVID MD (Pager #15176)**

- Alert CMO (Renee Edwards)
- Notify Strat Comm

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**Infection Prevention & Control**

- Add HCP to roster
- Consult w/ OH as necessary for case details (10106)
- Prepare with Occupational Health a list of patients that may have been exposed.
- Report at next EOC meeting.
# COVID-19 Workflow: Negative Result, Healthcare Personnel

**Title:** COVID-19 Workflow: Negative Result, Healthcare Personnel  
**Creation Date and Time:** 03/31/2020 12:00

**Employee Roles Impacted:** Inpatient Clinicians  
**Modified Date:** 04/14/2020

**Sponsoring Department:** Medical Branch (Operations)  
**Review by Date:** 04/02/2021

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**CORE LAB**

- Alerts Occupational Health (OH) with lab results fax.
- Not visible in Epic result.
- OH will notify worker of test result by email. Advise that return to work be guided by Illness Policy.
- OH will report out at the next EOC meeting.
Guidance for Testing in the Emergency and Ambulatory Settings

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<td>Employee Roles Impacted:</td>
<td>Clinicians caring for patients who need COVID-19 testing in inpatient or ambulatory settings</td>
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<td>Modified Date:</td>
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<td>Review by Date:</td>
<td>04/01/2021</td>
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<td>Sponsoring Department:</td>
<td>Operations (Medical Branch)</td>
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**Description:**
Guidance for COVID-19 Testing in the Ambulatory Setting (includes Mobile Test Sites + ED)

**General Principles**
The decision to test for COVID-19 depends on several variables, including:
1. Availability of test kits and reagents
2. Implications for patient management
3. Implications for infection control/public health

**Symptomatic Clinical Criteria**
Clinical signs/symptoms of upper or lower respiratory tract illness (+/- fever).

**Asymptomatic Clinical Criteria**
No signs/symptoms of respiratory tract illness BUT undergoing any of the following in the next several days:
1. Surgery or aerosol-generating procedure
2. Cesarean section of induction of labor
3. Stem cell transplant or CAR-T therapy
4. Solid organ transplantation
## De-isolation Criteria for Ambulatory

### Documentation for COVID-19

<table>
<thead>
<tr>
<th>Title: De-isolation Criteria for Outpatient</th>
<th>Creation Date and Time: 04/16/2020 2045</th>
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<td>Modified Date: 04/23/2020</td>
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<tr>
<td>Sponsoring Department: Infection Prevention and Control</td>
<td>Review by Date: 04/17/2021</td>
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<table>
<thead>
<tr>
<th>Symptomatic</th>
<th>Asymptomatic</th>
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<tr>
<td>Severe immunocompromised patients¹</td>
<td>COVID-19 positive result</td>
</tr>
<tr>
<td>With COVID-19 positive results</td>
<td>Remain on isolation precautions for a minimum of 14 days from last positive test.</td>
</tr>
<tr>
<td>OR</td>
<td>To inform de-escalation of isolation precautions*, testing* can be performed when:</td>
</tr>
<tr>
<td>With presumed or suspected COVID-19</td>
<td>- At least 14 days have passed since symptoms first appeared AND</td>
</tr>
<tr>
<td>(e.g., compatible clinical syndrome &amp; close contact of a documented case)</td>
<td>- The patient has been symptom-free for ≥ 72 hours.</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>Who tested negative but has</td>
<td></td>
</tr>
<tr>
<td>high clinical suspicion</td>
<td></td>
</tr>
</tbody>
</table>

(Continued on Page 2)

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## De-isolation Criteria for Ambulatory Documentation for COVID-19

<table>
<thead>
<tr>
<th>Symptomatic</th>
<th>Asymptomatic</th>
</tr>
</thead>
<tbody>
<tr>
<td>All other patients (those who are not severely immunocompromised)</td>
<td>All other patients (those who are not severely immunocompromised)</td>
</tr>
<tr>
<td>With COVID-19 positive results OR With presumed or suspected COVID-19 (e.g., compatible clinical syndrome &amp; close contact of a documented case) OR Who tested negative but has high clinical suspicion</td>
<td>COVID-19 positive result</td>
</tr>
<tr>
<td>There is no testing requirement for testing to inform de-escalation of isolation precautions* for this population (non-test based strategy).</td>
<td>Isolation precautions* can be discontinued when:</td>
</tr>
<tr>
<td>Isolation precautions can be discontinued if:</td>
<td></td>
</tr>
<tr>
<td>- At least 3 days (72 hours) have passed since recovery defined as resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); AND</td>
<td></td>
</tr>
<tr>
<td>- At least 7 days have passed since symptoms first appeared</td>
<td></td>
</tr>
<tr>
<td>CDC guidelines for discontinuation of transmission based precautions in the healthcare setting.</td>
<td>CONTACT THE DEPARTMENT OF INFECTION PREVENTION AND CONTROL FOR GUIDANCE (4-6694) FOR DE-ESCALATION OF ISOLATION FOR PATIENTS WITH COVID-19, INCLUDING REMOVAL OF EPIC INFECTION FLAG.</td>
</tr>
</tbody>
</table>

*Transplant, hematologic malignancy, bone marrow or solid organ transplant recipients, inherited immunodeficiency, poorly controlled HIV/AIDS, etc.

*Testing consists of TWO COVID-19 tests (preferably NP swab for COVID-19) separated by > 24 hours.
- If both test results are negative, isolation precautions can be discontinued.
- If one or both of the test results is positive, the patient should remain on isolation precautions and retested in ≥ 1 week to determine next steps.

a Contact the Department of Infection Prevention and Control for guidance (4-6694) for de-escalation of isolation for patients with COVID-19, including removal of Epic infection flag.

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Disposition: Symptomatic COVID-19 or PUI Patients from the ED

<table>
<thead>
<tr>
<th>Title: Disposition: Symptomatic COVID-19 or PUI Patients from the ED</th>
<th>Creation Date and Time: 04/10/2020 1012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Roles Impacted:</td>
<td>Modified Date:</td>
</tr>
<tr>
<td>Acute Care, Critical Care</td>
<td>Review by Date: 04/15/2021</td>
</tr>
<tr>
<td>Sponsoring Department:</td>
<td></td>
</tr>
<tr>
<td>Emergency Department</td>
<td></td>
</tr>
</tbody>
</table>

Description:
ED Admission for COVID-19 or PUI is for supportive care as well concern for complications, including need for supplemental oxygen or advanced organ support for respiratory failure, septic shock, and multi-organ failure, or for patients whose clinical trajectory raise concern that such support will be needed quickly.

Ultimately, disposition decisions must occur on an individual basis, and this medical decision will depend not only on the clinical presentation, but also on the patient’s ability to engage in self-monitoring and self-care, the feasibility of safe isolation at home, and the risk of transmission in the patient’s home environment.

Please use the following six examples as general guidelines, not to usurp your bedside judgement.

See Fig. 2 (p. 4) for summary of the following and definition of terms:
1. Normal vital signs and physical exam, no high risk factors¹, appropriate social situation: COVID testing + discharge²
2. Mild hypoxia, no additional oxygen administration required (O2 sat on 93-95% on room air), otherwise normal vital signs or mild abnormality, no risk factors:
   - Discharge
   - Home pulse oximetry twice daily, with instructions to call or return to the hospital if <93%
   - Check in after 24-36 hours with telehealth or in-person visit
   - Modified Borg Scale (1-10) with instructions or monitor level of exertional dyspnea with ADLS or counting aloud to 20
3. Normal vital signs and physical exam, but significant risk factors: obtain imaging. Significant risk factors + disease severity indicators³ (abnormal imaging): admit to observation or dedicated COVID unit.
4. Patients requiring oxygen administration (maintaining O2 sat >95% on 6 ≤ L/min nasal canula) or otherwise unable to go home, but without severity criteria:
   - Observation admission, if possible, on COVID-19 ward with continuous vital sign monitoring

¹ Includes age risk factors
² Includes risk of transmission
³ Includes imaging findings

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5. Patients who require oxygen therapy (nasal cannula or face mask) and/or continuous monitoring of vital parameters but do not seem to be progressing to high flow oxygen needs:
   - Inpatient admission on continuous telemetry to COVID-19 ward per OHSU surge plan
   - Initiation of treatment: pronation, pharmacologic treatment (per OHSU protocol)

6. Patients with increasing respiratory and other organ dysfunction. Short of intubation, indications for ICU may include: Rapid progression of respiratory symptoms; Escalating oxygen requirement on supplemental O2, requiring/anticipated to require HFNC (needing to increase FiO2 to maintain SpO2>90%); Evidence of end organ damage or tissue hypoxia or increased risk to develop this quickly.
   - Consult ICU for admission
   - Initiation of treatment: pronation, pharmacologic treatment (per OHSU protocol)

Severity Considerations (suggested)
Age >60
Vital sign abnormalities (e.g., RR <9 or >20; systolic BP <100 or >200 pulse <41 or >110), considering patient's baseline parameters and using physician discretion
Evidence or impending of organ failure: encephalopathy (confusion / change in mental status), respiratory failure, renal failure, heart failure, liver failure
Lymphopenia and neutropenia
mSOFA score (<8 high priority for critical care)
Health conditions (as defined by the CDC): heart disease (CHF, CAD, Hypertension); chronic lung disease (COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy or HIV/AIDS); BMI >30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological / neurodevelopment conditions; current or recent (within 2 weeks) pregnancy

Notes
Based on the data published thus far, hospital admission typically occurs around day 5-7 of symptom onset and rapidly progresses to critical illness. However, data on timelines for illness progression are still limited, thus we cannot advise a “safe” amount of time after symptom onset to prognosticate for or against worsening disease process in a patient. Therefore, the most reliable data point will be what the provider sees during the initial patient assessment, and the patient’s clinical trajectory over the period of assessment in the ED.
Disposition: Symptomatic COVID-19 or PUI Patients from the ED
Documentation for COVID-19: Adult & Pediatric

Description continued:

Considerations for moderate or surge conditions:
Based on capacity in ED, internal and family medicine wards, and ICU, and in coordination with the on-call administrator, certain conditions that may reasonably be managed outside of the unit should be prioritized for floor admission. These include, for example:

1. Uncomplicated alcohol withdrawal. Receiving repeated IV benzodiazepines without escalating doses or mental status or hemodynamic decline;
2. Moderate DKA (bicarb 12-15, pH >7.0) without hypokalemia;
3. Atrial fibrillation with HR < 150 managed by intermittent boluses or a fixed infusion, but with stable blood pressure and no evidence of ischemia;
4. Hyperkalemia and volume overload in renal patients with appropriate access and no arrhythmia; pursue initial treatment in ED followed by telemetry admission to wards for expedited dialysis as long as repeat bloodwork does not show increasing potassium after initial ED treatment.

References:
- https://jamanetwork.com/journals/jama/fullarticle/2763485
- https://erj.ersjournals.com/content/early/2020/03/17/13993003.00547-2020

Figure 1. The Borg Scale

| 0  | Nothing at all                      |
| 0.5| Very, very slight (just noticeable) |
| 1  | Very slight                         |
| 2  | Slight (light)                      |
| 3  | Moderate                            |
| 4  | Somewhat severe                     |
| 5  | Severe (heavy)                      |
| 6  |                                       |
| 7  | Very severe                         |
| 8  |                                       |
| 9  |                                       |
| 10 | Very, very severe (maximal)         |

Patients are asked to rate their difficulty breathing. Anything 3 or higher should prompt a return to health care provider.
Disposition: Symptomatic COVID-19 or PUI Patients from the ED
Documentation for COVID-19: Adult & Pediatric

Fig. 2: Symptomatic COVID-19 or PUI Patients: Emergency Department Disposition Decision

Vital signs and physical exam normal?

- Yes
  - Risk Factors 2?
    - No
      - Social situation appropriate for discharge?
        - Yes
          - Discharge 2
        - No
          - Alt housing or ED Obs unit
    - Yes
      - Imaging 4
      - Disease severity risk factors 2
  - No
    - Imaging 4
    - Disease severity risk factors 2

- O2 requirement or other vital sign abnormality

Mild
- RA O2 sat 93-95%; other mild VS abnormalities (e.g., RR 22, HR 105)
- Pathway as on left, but d/c is O2 sat monitor and/or 24-36 hr follow up
- Labs 2 + Imaging
- ED Obs vs Covid-19 Inpatient Ward

Mod
- RA O2 sat >92% on supplemental O2 and/or vital sign abnormality
- Labs 2 + Imaging
- ICU

Severe
- Requiring HFNC (>20 L/min adult, 10 L/min pediatric) & concerning trajectory; sepsis; intubated; physician discretion
- ICU

Risk Factors (2)
- Age >60
- Health conditions as defined by the CDC (e.g., heart disease, chronic lung disease (COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy, HIV/AIDS); BMI >30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological/neurodevelopmental conditions; current or recent (within 2 weeks) pregnancy

Discharge Notes (2)
- Continue ARB/ACE inhibitors
- Advise Tylenol for fever
- Avoid NSAIDs
- Consider 24-36 hour follow up with VV or family medicine
- If discharged with O2 sat probes, recommend use for ~1 week or until symptoms resolve

Disease Severity Risk (2)
- Pulmonary infiltrates on imaging 4
- Exertional SPO2 <90% immediately after ambulation; after 1-min walk in place; or unable to complete ambulatory O2 sat testing
- Portable CXR
- POCUS
- CT only when these are inconclusive or to evaluate for other dx

Imaging (4)
- CBC with diff
- CMP
- CRP
- LDH
- Dic Panel (PT, aPTT, fibrinogen, D-dimer)
- Ferritin
- Cardiac: ECG, CPK, Troponin, and BNP
- Venous lactate
- Procalcitonin
- With pneumonia: blood cultures

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**Guidance for Aerosol-Generating Procedures**

**Documentation for COVID-19**

**Title:** Guidance for Aerosol-Generating Procedures  
**Creation Date and Time:** 03/21/2020 1430

**Employee Roles Impacted:**  
Physicians, APPs, Nurses, Respiratory Therapists, Code Teams

**Modified Date:** 04/02/2020  
**Review by Date:** 03/21/2020

**Sponsoring Department:**  
Infection Prevention and Control, Infectious Diseases, Adult and Pediatric Critical Care, Pulmonology, Anesthesia, Respiratory Therapy, Thoracic Surgery, Otolaryngology, Obstetrics and Gynecology, Gastroenterology, Emergency Medicine, Nursing, Toxicology, and Emergency Preparedness

**Description:**

**THIS IS SPECIFIC GUIDANCE FOR COVID-19 SUSPECTED/CONFIRMED CASES**

This guidance represents review of CDC and OHA guidelines as well as input from representatives of the following OHSU departments: Infection Prevention and Control, Infectious Diseases, Adult and Pediatric Critical Care, Pulmonology, Anesthesia, Respiratory Therapy, Thoracic Surgery, Otolaryngology, Obstetrics and Gynecology, Gastroenterology, Emergency Medicine, Nursing, Toxicology, and Emergency Preparedness.

Our efforts have focused on a well-informed yet rational approach to minimizing to the best extent possible the risk of nosocomial transmission of COVID-19, balanced with particular attention to conservation of vital personal protective equipment (PPE) resources. This is intended not as an exhaustive list, but rather as a practical list. Furthermore, our hope is to establish a set of “living guidelines,” which can be used in response to improved understanding of this disease and changes in medical supplies. Therefore, these guidelines are subject to revision; please check them regularly for the most up-to-date information.

Aerosol generating procedures may include (but are not necessarily limited to):

- Intubation, extubation, and related procedures such as manual ventilation and open suctioning
- Cardiopulmonary resuscitation
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy
- Some surgeries and post-mortem procedures, most notably procedures involving the airway, oral/maxillofacial region, or GI tract
- Non-invasive ventilation (NIV) such as bi-level positive airway pressure (BiPAP) and continuous positive airway pressure (CPAP) ventilation
- High-frequency oscillating ventilation (HFOV)
- Induction of sputum
- Medication administration via continuous nebulizer
- Delivery of high-flow nasal oxygen (HFNO), also called high-flow nasal cannula (HFNC), may also generate aerosol but is markedly variable
Guidance for Aerosol-Generating Procedures Continued

Below is a stratified priority list for the use of N95 respirators or PAPRs (in addition to eye protection, gown, and gloves) by healthcare staff participating in these procedures. This list attempts to establish different tiers of risk, and thus graduated priorities, as well as the impact of distance between patient and healthcare worker. As the pandemic evolves and supplies change, this tiered system can inform changing guidelines; for example, a restriction by the Emergency Operations Committee from all three tiers to Tier 1 and Tier 2, followed by Tier 1 only, and further restriction based on distance between healthcare worker and patient. Similarly, clinical suspicion for COVID-19 will change as we learn more about this disease’s transmission and the prevalence within our community.

Definition of terms:

- Risk tier 1: Highest risk of aerosol exposure, recommended PPE should be prioritized.
- Risk tier 2: Medium risk of aerosol exposure, recommended PPE should be used when supplies are available.
- Risk tier 3: Lower risk of aerosol exposure, recommended PPE should be used when supplies are available.

Table: Recommended PPE (in addition to gown, gloves and eye protection) for aerosol generating procedures based on level of risk and proximity to patient during the procedure in patients with suspected or confirmed COVID-19.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Risk tier</th>
<th>Within 3 feet of patient</th>
<th>Within the immediate patient care area (approx. 6 feet of patient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intubation, extubation, open suctioning, manual ventilation</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Cardiopulmonary resuscitation (CPR)</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Bronchoscopy, flexible laryngoscopy, rigid nasal endoscopy</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Surgery involving the airway, oral maxillofacial region, or esophagus</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Autopsies/post-mortem evaluation1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NIV, BiPAP, hospital CPAP</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
</tbody>
</table>
Description continued:

**Guidance for Aerosol-Generating Procedures Continued**

Table (cont.): Recommended PPE (in addition to gown, gloves and eye protection) for aerosol generating procedures based on level of risk and proximity to patient during the procedure in patients with suspected or confirmed COVID-19.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Risk tier</th>
<th>Within 3 feet of patient</th>
<th>Within the immediate patient care area (approx. 6 feet of patient)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sputum induction</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Anticipated breaks in the circuit during mechanical ventilation²</td>
<td>1</td>
<td>N95/PAPR</td>
<td>N95/PAPR</td>
</tr>
<tr>
<td>Home CPAP</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>≥20L NFNO/NFNC (adults)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>≥10L HFNO/HFNC (pediatrics)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>≥10L HFNO/HFNC (NICU)</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Medication administration via continuous nebulizer</td>
<td>2</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Transesophageal echocardiogram (TEE)</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Upper GI scope</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
<tr>
<td>Labor and delivery³</td>
<td>3</td>
<td>N95/PAPR</td>
<td>Procedure mask</td>
</tr>
</tbody>
</table>

1. Currently suspended, per OHSU Pathology.
2. Mechanically ventilated patients with COVID-19 do not require N95/PAPR unless circuit breaks are anticipated. Consult with ICU intensivist with questions.
3. Recommend use of N95/PAPR for nurses and delivering provider within immediate vicinity of the patient during 2nd stage of labor and vaginal delivery. For cesarean section procedures under spinal or epidural anesthesia, the anesthesia provider should use N95/PAPR while other care team members should use procedure masks.
Description continued:

Other considerations:

It is vitally important to appreciate that airborne transmission of infectious diseases is an exceedingly complex topic, dependent on myriad factors from the unique characteristics of the disease, to the air flow of the physical space surrounding an infected individual, to the distance between healthcare worker and patient. As such, it would be impossible to create with absolute certainty or reliability a list of procedures that generate aerosols of dangerous infectious transmission capacity.

At this time, healthcare staff participating in patient care NOT including any of these procedures are advised to abstain from using N95s/PAPRs and should instead wear procedural masks, in addition to the aforementioned droplet precautions (eye protection, gown, gloves).

In general, for surgeries not described above, N95/PAPR should be worn by the intubating provider and any healthcare staff within 6ft of the intubation who cannot otherwise safely achieve this minimum distance, including during emergent intra-operative intubations. All healthcare staff who are able to maintain 6ft distance from the intubation should do so and should abstain from using N95s/PAPRs.

At this time, patient contact limited to collection of a nasopharyngeal swab for COVID-19 testing does not require an N95/PAPR.

During transport of a patient where source control (e.g., masking the patient, closed-circuit mechanical ventilation) cannot be maintained, the person managing the airway during transport should wear the PPE indicated in the table above for the procedure in progress.
On April 8, 2020, we announced a new rapid PCR test for COVID-19. There has been tremendous demand for this very limited testing resource and a clear ask for better guidance how to decide on when to use the test. In order to conserve this precious resource, we are restricting use to situations where the result is critical to clinical decision-making.

The test can be used in the following situations:
- Pre-transplant patients upon admission for solid organ transplantation in <12 hrs
- Patients undergoing Pacific Northwest Transplant Bank donor work-up with donation planned in <12 hours
- High-risk hematology/oncology patients who need urgent interventions in <12 hours that would be contraindicated in a COVID-19+ patient
- Obstetric patients expected to deliver in <12 hours where the result would affect clinical care of the mother/infant dyad

Requires approval by the COVID-19 inpatient physician (pager #15176): Isolated emergent situations not included above where clinical decision-making would change depending on the result of the test.

Please continue to use the existing lab test (COVID-19 by PCR) for most COVID testing. The turnaround time for the existing test is about 12 to 36 hours, and is often less than 24 hours.
### Guidelines for Obtaining Written Consent from COVID-19 PUI or Confirmed Positive Patient

**Title:** Guidelines for Obtaining Written Consent from COVID-19 PUI or Confirmed Positive Patient  
**Creation Date and Time:** 04/02/2020 1500  
**Employee Roles Impacted:** Providers, Nurses, HUCs, PASs

**Modified Date:**  
**Review by Date:** 04/03/2021

**Sponsoring Department:** Maternity Services

**Description:**

**Instructions for person obtaining consent:**
1. Separate all pages of consent form
2. Perform hand hygiene and don appropriate PPE based on posted isolation precautions.
3. Bring into the room a pen that will stay in the room, the consent form, a sheet protector for each page of consent form, and oxivir wipes
4. Clean a surface away from patient with oxivir wipes for 1 minute contact time.
5. Place sheet protector(s) on the clean surface
6. Have the patient (or consenting individual, such as a parent) cleanse their hands (ideally using soap and water, with hand sanitizer as a backup if no sink available).
7. Wipe down the surface used for signing (such as a bedside table) with Oxivir wipe for 1 minute contact time
8. Have patient or consenter sign consent form
9. Place consent form into sheet protector(s) (do not use a biohazard bag)
10. Wipe the outside of the sheet protector(s) containing consent with Oxivir wipe for 1 minute contact time and place on clean surface
11. Remove PPE appropriately, sanitize hands
12. Take sheet protector(s) containing the consent form with you as you exit the room, then wash or sanitize hands
13. Give consents in sheet protectors to HUC or PAS

**Instructions for person processing consent form (PAS or HUC):**
1. Leaving consents in sheet protectors photocopy both sides by placing directly on copy machine glass
2. Dispose of consents and sheet protectors in biohazardous trash (red trash)
3. Scan consent copies into EHR
Personal Protective Equipment (PPE)

**Gown and Gloves**

**WEAR A GOWN AND GLOVES WHEN:**
- There is risk of your clothing becoming soiled with soil, blood or other body fluids
- Indicated by contact, contact plus or contact and droplet precautions

**DONNING: PUTTING ON**

1. Perform hand hygiene.
2. Put gown over head. Do not tear open perforation on back.
3. Slide arms into sleeves and put thumbs through loops.
4. Wrap ties around waist and tie in front.
5. Put on gloves over thumb loops so that wrists and hands are fully covered.
6. To perform hand hygiene during patient care, remove gloves, unhook thumb loops, rub hands with hand sanitizer or wash with soap and water, re-loop thumb loops, don new gloves.

**REMOVAL: TAKING OFF**

1. Unhook strap tie by hooking thumb under the tie and pulling down and away from your body.
2. Grab front of gown near the thighs. Slowly pull forward, up and away from your body to rear back of gown.
3. Carefully roll outside of gown toward and remove gown with gown.
4. Perform hand hygiene.

**Gloves (without a Gown)**

**WEAR GLOVES (without a Gown) WHEN:**
- There is risk of your hands coming in contact with any type of body fluid

**PUTTING ON GLOVES**

1. Perform hand hygiene.
2. Select glove size that fits hands and put on.

**TAKING OFF GLOVES**

1. Pinch outside of glove near the wrist, with the opposite gloved hand and peel off.
2. Hold removed glove in gloved hand.
3. Carefully slide finger of ungloved hand under wrist of remaining glove and slowly peel off second glove turning it inside out.
4. Perform hand hygiene.

**ITEM INFORMATION**

- **Item Description:** Nonsterile exam gloves
- **Item Number:** 208236 (X-Small), 208235 (Small), 208234 (Medium), 208233 (Large), 208232 (XX-Large)
- **Disposal of gloves:** After each use.

**REMINDEERS**

- When wearing PPE, keep hands away from face.
- Limit surfaces touched.
- Discard PPE in a waste container after each use, unless the PPE is for extended use. Example: face shields, goggles, APR
- Change gloves when torn, heavily contaminated, and when cleaning hands in compliance with the WHO 5 moments for hand hygiene.
- If your PPE is compromised during use or removal, your clothes and skin are likely contaminated, please put on a honey suit or change clothing and clean exposed skin to reduce the risk of transmission to other patients and staff.
PROCEDURE MASK

WEAR A PROCEDURE MASK WHEN:
• There is a splash risk to your face
• Patient is coughing or sneezing
• Indicated by droplet precautions or contact and droplet precautions
• Performing spinal injection procedure
• Vaccinating against influenza during flu season
• In compliance with the Illness Among OHSU Healthcare Workers members policy (HC-1B-10-030-R3)

NOTE: If the patient is in airborne precautions, wear N95 respirator or PAPR. For N95 fit testing or PAPR instructions, contact Occupational Health 6-5271.

PUTTING ON A PROCEDURE MASK
1. Unless you have just put on a clean gown and gloves, perform hand hygiene.
2. Loosen procedure mask elastic behind the ears.
3. Fit flexible band to nose bridge, ensure nose is covered.
4. Fit mask over face and below chin.

TAKING OFF A PROCEDURE MASK
1. Remove all other PPE prior to taking off mask.
2. Do not touch the front of the mask, as it may be contaminated.
3. With clean hands, unhook elastic from behind ears.
4. Perform hand hygiene.
5. Place Procedure mask in clean, uninitiated paper bag for possible extended-use.

Extended-use guidelines for procedure masks and surgical masks apply to all inpatient units, procedure areas, and pre/post-surgical areas only. Surgical masks worn in surgical units (restricted areas) should be disposed of and replaced between patients.

ITEM INFORMATION

Item Description: Yellow/Blue procedure mask with ear loops
Item Number: 371706 (yellow), 371756 (blue)
Extended-use Instruction: Procedure masks may be used for up to 4 hours or until the mask becomes moist or compromised. Perform hand hygiene before and after contact with the mask.
When not in use, the mask should be placed into a paper bag marked with the health care worker’s initials. Ensure the paper bag is clean and intact before each use. The paper bag should be disposed of along with the procedure mask. Paper pads can be ordered through the logistics web cataloging with item number 123337.

Item Description: Blue surgical mask with ties
Item Number: 371710
Extended-use Instruction: Surgical masks may be used for up to 4 hours or until the mask becomes moist or compromised. Perform hand hygiene before and after contact with the mask.
When not in use, the mask should be placed into a paper bag marked with the health care worker’s initials. Ensure the paper bag is clean and intact before each use. The paper bag should be disposed of along with the surgical mask. Paper pads can be ordered through the logistics web cataloging with item number 123337.

Item Description: 3M Aera N-95 Respirator
Item Number: 2890077
Dispose of after each use.

Item Description: Halfyard N-95 Respirator, Small or Regular size
Item Number: 123732 (small), 123607 (regular)
Dispose of after each use.

EYE PROTECTION

WEAR EYE PROTECTION WHEN:
• There is a splash risk to your face
• Treating a patient with possible or confirmed emerging pathogen

PUTTING ON EYE PROTECTION
1. Place over eyes/face and adjust to fit.
2. Wear with a procedure mask.

TAKING OFF EYE PROTECTION
1. Do not touch the front of the eye protection, as it may be contaminated.
2. With clean hands, remove by ear piece or head band.
3. Clean with disinfectant wipes (or bleach wipes for contact lens precautions) for 3 minutes or discard only if compromised.
4. Perform hand hygiene

CLEANING AND EXTENDED-USE OF EYE PROTECTION
• Goggles and safety glasses can be disinfected with OHSU’s routine disinfectant wipes and can be reused between staff members.
• Be sure to follow the contact time for the wipe used.
• Goggles or safety glasses should be discarded if they are visibly contaminated (e.g., splashed with body fluids) or if they become cracked or damaged.
• The plastic shield of the face shield can also be disinfected between uses; however, the foam comfort strip cannot be adequately cleaned.
• For this reason, the face shield can be reused by the same health care worker during one shift.
• Face shields should also be discarded if they are visibly contaminated (e.g., splashed with body fluids) or if they become cracked or damaged.

EYE PROTECTION NOTES
• Eye protection should fully cover front and side of eyes.
• Eye protection includes goggles, safety glasses or face shield; a tight rubber seal is not required.
• Clear reusable eye protection with current disinfectant wipes.

ITEM INFORMATION

Item Description: Full Face Shield or 1/2 Length Face Shield
Item Number: 26154 (full), 377523 (1/2 length)

Item Description: Black protective lens
Item Number: 123219

Item Description: Tinted shield protective eye shield with frame
Item Number: 197018

95
OHSU Criteria for Staff Exposures to Confirmed COVID-19

HIGH RISK:
- Health care personnel (HCP) performed or were present in the room for aerosol-generating procedures without all appropriate PPE (respirator, eye protection, gown, gloves) OR
- HCP had direct contact to mucous membranes (eyes, nose, or mouth) from respiratory secretions of patient.

MEDIUM RISK:
- HCP had contact within 6 feet for more than 2 mins while patient was not masked AND HCP was not wearing face mask and eye protection; OR
- HCP had significant physical contact with patient without gown and gloves; OR
- HCP recently returned from CDC Level 3 countries.

LOW RISK:
- HCP had brief interactions with patient regardless of whether patient was wearing a facemask; OR
- HCP had prolonged close contact with patient who was wearing a facemask for source control while HCP was wearing a facemask or respirator.

NO IDENTIFIABLE RISK:
- HCP walked in a patient or unit where patient is being cared for; OR
- HCP had no direct contact with the patient or their secretions/excretions; OR
- HCP has contact with asymptomatic persons exposed to COVID-19.

ACTIVE MONITORING
- Quarantine at home.
- Monitor and record your temperature twice daily and symptoms daily using the Daily Symptom Monitoring Tool for 14 days.

SELF MONITORING
- Report using: Online Reporting Tool.
- Report to work/sick reporting.
- Monitor and record your temperature twice daily and symptoms daily using the Daily Symptom Monitoring Tool for 14 days.

IF YOU DEVELOP SYMPTOMS:
- If you need medical care, call your primary care provider first.
- Notify OH or SHW.
- Fill out a Worker Injury Report.

IF YOU DEVELOP SYMPTOMS:
- Stop work, don mask, notify manager, isolate at home.
- If you need medical care, call your primary care provider first.
- Notify OH or SHW.
- Fill out a Worker Injury Report.

All OHSU staff should be vigilant for symptoms of respiratory illness. Refer to Illness Policy.
Management of Mother with Newborn Suspected or Confirmed

Documentation for COVID-19

<table>
<thead>
<tr>
<th>Stage of delivery</th>
<th>Medical care team (Mother*)</th>
<th>Medical care team (Baby)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OB clinic</td>
<td>Contact, Droplet, Eye protection</td>
<td>N/A</td>
</tr>
<tr>
<td>L&amp;D</td>
<td>Contact, Droplet, Eye protection</td>
<td>N/A</td>
</tr>
<tr>
<td>Delivery room or operating room</td>
<td>Contact, Eye protection</td>
<td>Contact, Droplet, Eye protection, If procedures in close proximity to respiratory secretions – airborne</td>
</tr>
<tr>
<td>Resuscitation suite</td>
<td>N/A</td>
<td>Contact, Droplet, Eye protection, If procedures in close proximity to respiratory secretions – airborne</td>
</tr>
<tr>
<td>Stage of delivery</td>
<td>Medical care team (Mother)</td>
<td>Medical care team (Baby)</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
<td>Contact</td>
<td>Rooming-in:</td>
</tr>
<tr>
<td></td>
<td>Eye protection</td>
<td>same as mom***</td>
</tr>
<tr>
<td>Post-delivery</td>
<td>If mother is intubated:</td>
<td>Contact</td>
</tr>
<tr>
<td></td>
<td>airborne</td>
<td>Droplet</td>
</tr>
<tr>
<td></td>
<td>If mother is NOT intubated:</td>
<td>Eye protection</td>
</tr>
<tr>
<td></td>
<td>droplet</td>
<td>Bathe newborn soon</td>
</tr>
<tr>
<td></td>
<td>Restricted visitation**</td>
<td>after birth as soon as</td>
</tr>
<tr>
<td></td>
<td></td>
<td>practically possible</td>
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<td></td>
<td></td>
<td>(before head to toe</td>
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<td></td>
<td></td>
<td>assessment, medication</td>
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<td></td>
<td></td>
<td>administration, etc.)</td>
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<td>If procedures in close</td>
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<td>proximity to</td>
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<td>respiratory secretions</td>
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<td></td>
<td></td>
<td>- airborne</td>
</tr>
<tr>
<td>Breastmilk</td>
<td>If rooming-in: Mom should</td>
<td>EBM may be used.</td>
</tr>
<tr>
<td></td>
<td>practice hand hygiene</td>
<td>Breastmilk</td>
</tr>
<tr>
<td></td>
<td>and wear facemask when</td>
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<tr>
<td></td>
<td>breastfeeding (skin-to-</td>
<td></td>
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<tr>
<td></td>
<td>skin contact allowed)</td>
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</tr>
<tr>
<td></td>
<td>No skin to skin contact</td>
<td></td>
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<td></td>
<td>allowed with mother or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>visitors.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expression:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Dedicated breastpump</td>
<td></td>
</tr>
<tr>
<td></td>
<td>if possible.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Mom should practice</td>
<td></td>
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<td></td>
<td>hand hygiene.</td>
<td></td>
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<tr>
<td></td>
<td>• Usual cleaning of</td>
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<tr>
<td></td>
<td>breastpump and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>apparatus.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Bottle to be wiped</td>
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</tr>
<tr>
<td></td>
<td>down with alcohol</td>
<td></td>
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<tr>
<td></td>
<td>wipes prior to</td>
<td></td>
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<tr>
<td></td>
<td>storage.</td>
<td></td>
</tr>
</tbody>
</table>
Description continued:

* Suspected: mother is person under investigation (PUI) under public health supervision
* Within healthcare facility, mother to wear procedure mask UNLESS in a room.
** CDC recommendation is that visitors wear same PPE as healthcare workers.
*** CDC recommendation is to have risk/benefit discussion and separation can be considered
   If mom decides on separation – options include:
   Separate rooms for mother and baby (baby’s room would be under standard precautions)
   Same room – but 6 feet apart with physical barrier (curtain/screen).
** If baby becomes ill, please consult Pediatric ID on whether COVID-19 investigation and isolation is needed.

References
COVID-19 MA testing workflow:
1. Clinic provider determines patient is appropriate for COVID testing. Enters order for COVID testing.
2. Clinic pages COVID MA with location of patient to be tested. Pager 14000 in SmartWeb as COVID MA.
3. COVID MA will go to clinic and check in with staff. If COVID MA is getting multiple pages will call clinic and provide ETA.
4. COVID MA will log in and release the order from the clinic's order pool.
5. COVID MA will don appropriate PPE (mask, eye protection, gown and gloves) provided by the clinic.
6. COVID MA will enter the patient room, ask two patient identifiers, explain the process and perform the testing. Testing process includes:
   a. Two medias and two swabs needed per collection. Each swab should be placed in its own media.
   b. Prepare specimen for pick up and leave in the clinic specimen pick up area.
7. Clinic MA will do any needed follow up or education with patient, including bringing visit to a close and providing AVS. MA's can only educate based on what is on an education sheet. If the education sheet does not answer the patient's question, the question needs to be escalated to a RN or LIP to answer.
8. COVID MA will give clinic MA the room cleaning job breakdown sheet for appropriate room cleaning.
Nasal Swab Specimen Collection

Personal Protective Equipment (PPE)
Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required PPE to be worn at all times when collecting a respiratory specimen:
• Gloves
• Face shield
• Procedure mask
• Isolation gown

Collect Specimen
1. Gently insert swab into a nostril straight back (not upwards), along the floor of the nasal passage until reaching the posterior wall of the nasopharynx. The distance from the nose to the ear gives an estimate of the distance the swab should be inserted.
   Note: Do not force swab – if an obstruction is encountered, try the other nostril.

2. Rotate swab gently for 10 seconds.

3. Remove swab slowly.

4. Bend handle of swab 1.5 to 2 inches straight down towards swab tip. Immediately place swab into the transport media. Leave swab in transport media. Swab should be entirely enclosed in tube, no wire should extend past lip of tube. Replace lid to transport media. Tighten to prevent leakage during transport.

5. Follow the standard operating procedures of transport and testing for your location. If off campus, then place specimen on ice.

Tip: If patient is seated for the procedure, have patient sit with head against a wall as patients have a tendency to pull away during the procedure.

Directions: Open the Camera application on your device. Hold your device steady for 2-3 seconds towards the QR Code you want to scan.
Click on the notification to open the content of the QR Code.
Nasal Wash Specimen Collection without Suction

Check for nasal obstruction

Patients with a nasal obstruction should be swabbed using standard technique.

Personal Protective Equipment (PPE)

Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required PPE to be worn at all times when collecting a respiratory specimen:

- Gloves
- Face shield
- Procedure mask
- Isolation gown

Collect Specimen

1. Squeeze 1 saline bullet (5 ml) into a sterile specimen container.
2. Instill sterile saline into a clean bulb suction.
3. Insert bulb into one nostril until nostril is occluded.
4. Instill saline into nostril with one squeeze of the bulb and immediately release bulb to collect recoverable nasal specimen.
5. Empty bulb into suitable dry, sterile specimen container.
6. Send specimen to the lab.

Directions: Open the Camera application on your device. Hold your device steady for 2-3 seconds towards the QR Code you want to scan. Click on the notification to open the content of the QR Code.

ISO Version Control: HC-CE-129.01- COV-PRO Rev.040820

Clinical Education | Page 1
Nasal Wash Specimen Collection with Wall Suction for the most accurate results for COVID-19

<table>
<thead>
<tr>
<th>Setting with wall suction: Patient needing Respiratory Viral Testing</th>
</tr>
</thead>
</table>
| Check for nasal obstruction  
Patients with a nasal obstruction should be swabbed using standard technique. |

<table>
<thead>
<tr>
<th>Personal Protective Equipment (PPE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required PPE to be worn at all times when collecting a respiratory specimen:</td>
</tr>
</tbody>
</table>
| • Gloves  
• Face shield  
• Procedure mask  
• Isolation gown |

<table>
<thead>
<tr>
<th>Collect Specimen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Connect wall suction tubing to the conical shaped adapter on the DeLee™ canister.</td>
</tr>
<tr>
<td>2. Connect suction tubing to the tubing on the DeLee™ catheter.</td>
</tr>
<tr>
<td>3. Set the wall suction to appropriate suction setting.</td>
</tr>
<tr>
<td>4. Check suction and measure distance from tip of nose to external opening of ear. Mark length with thumb and forefinger.</td>
</tr>
<tr>
<td>5. Gently insert tube into nostril and posterior pharynx until the thumb and forefinger touch the patient’s nose. Do not use lubricants other than saline to aid tube insertion.</td>
</tr>
<tr>
<td>6. Apply suction while withdrawing and rotating tube. Catheter should remain in nasopharynx no longer than 10 seconds.</td>
</tr>
<tr>
<td>7. Hold trap upright to prevent loss of secretions from trap.</td>
</tr>
<tr>
<td>8. Repeat procedure for second nostril.</td>
</tr>
<tr>
<td>10. Remove cap with tubing and place in biohazard waste.</td>
</tr>
<tr>
<td>11. Remove cap from packaging and place on top of DeLee™ trap.</td>
</tr>
<tr>
<td>12. Send specimen to the lab.</td>
</tr>
</tbody>
</table>

Directions: Open the Camera application on your device. Hold your device steady for 2-3 seconds towards the QR Code you want to scan. Click on the notification to open the content of the QR Code.

ISO Version Control: HC-CE-129.01- COV-PRO Rev.040820
Clinical Education | Page 2
OHSU Primary Care COVID In-Person Visit Guide

OHSU Primary Care clinical guide for in-person evaluation of the patient with symptomatic COVID 19 or patient under investigation for COVID 19

General principles

- Be aware for the anchoring bias. COVID is important but not yet highly prevalent; make sure to consider other conditions with respiratory symptoms or GI symptoms.
- Manage and optimize pre-existing chronic conditions.
- Consider x-ray to rule out lung infiltrate especially among pts with comorbidities. See Risk Factors¹.
- Provide focused physical exam to reduce direct contact with patients, and avoid removing patient mask if at all possible. Critically think your use of a stethoscope.

Disposition Guide (adapted and modified from adapted from Disposition: Symptomatic COVID-19 or PUI patients by OHSU Emergency Room Department)

1. Normal vital signs and physical exam, no risk factors¹, appropriate social situation:
   - Discharge
   - Consider COVID testing: Follow the updated OHSU Ambulatory testing guideline
   - Return precautions

2. Normal vital signs and physical exam, but significant risk factors: exertion test, obtain chest x-ray one view and COVID test.
   - If x-ray normal and O2 sat ≥ 90% with exertion: Discharge
     - Arrange follow up in person visit in 24–36 hours or virtual visit in 24-36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if O2 sat <93%
   - If x-ray suggestive of COVID 19 and/or O2 sat <90% with exertion: Consider ER referral or direct admission for observation.
   - X-ray abnormal suggestive other conditions: follow up appropriate for the condition

3. Mild hypoxia, no additional oxygen administration required (O2 sat on 93-95% on room air), otherwise normal vital signs or mild abnormality, no risk factors and O2 sat ≥ 90% with exertion:
   - Discharge
   - COVID testing
   - Follow up
     In person visit in 24–36 hours or virtual visit in 24-36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if O2 sat <93%
     - Modified Borg Scale (1-10) with instructions to monitor level of exertional dyspnea with ADLs or counting aloud to 20; advise patient to go to ED or call Hotline if score increasing or > 3.

4. Mild hypoxia, no additional oxygen administration required (O2 sat on 93-95% on room air), otherwise normal vital signs or mild abnormality, with risk factors and O2 sat ≥ 90% with exertion
   - If x-ray normal and O2 sat ≥ 93% with exertion: Discharge
     - Arrange follow up in person visit in 24–36 hours or virtual visit in 24-36 hours with home pulse oximetry twice daily, with instructions to call or return to the hospital if O2 sat <93%
     - Modified Borg Scale (1-10) with instructions to monitor level of exertional dyspnea with ADLs or counting aloud to 20; advise patient to go to ED or call Hotline if score increasing or > 3.
   - If x-ray suggestive of COVID 19 and/or O2 sat <93% with exertion: ER referral or direct admission for observation
5. Patients requiring oxygen administration, any evidence of end organ dysfunction/shock, or otherwise unable to go home:
   - Transfer to ER

**Severity Considerations (suggested)**

Age >60

Vital sign abnormalities (e.g., RR <9 or >20; SBP <100 or >200; HR <41 or >110), considering patient’s baseline parameters and using clinical discretion

Evidence of organ failure: diaphoresis, altered mental status, acute chest pain, decompensated heart failure, acute kidney injury

Pancytopenia, severe lymphopenia/neutropenia

Medical co-morbidities (as defined by the CDC): heart disease (CHF, CAD, Hypertension); chronic lung disease (COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy or HIV/AIDS); BMI >30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological / neurodevelopment conditions; current or recent (within 2 weeks) pregnancy

---

**Figure 1. The Borg Scale**

<table>
<thead>
<tr>
<th>Number</th>
<th>Difficulty</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Nothing at all</td>
</tr>
<tr>
<td>0.5</td>
<td>Very, very slight (just noticeable)</td>
</tr>
<tr>
<td>1</td>
<td>Very slight</td>
</tr>
<tr>
<td>2</td>
<td>Slight (light)</td>
</tr>
<tr>
<td>3</td>
<td>Moderate</td>
</tr>
<tr>
<td>4</td>
<td>Somewhat severe</td>
</tr>
<tr>
<td>5</td>
<td>Severe (heavy)</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Very severe</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Very, very severe (maximal)</td>
</tr>
</tbody>
</table>

Patients are asked to rate their difficulty breathing. Anything 3 or higher should prompt a return to health care provider.
Fig. 2: Symptomatic COVID-19 or PUI Patients: Primary Care Disposition Decision

Vital signs and physical exam normal?

O2 requirement or other vital sign abnormality

Mild
- RA O2 sat 93-95%; other mild VS abnormalities (e.g., RR 22, HR 105)

Mod
- RA O2 sat <93 but >92% on supplemental O2 and/or vital sign abnormality

Severe
- Requiring HFNC (>20 L/min adult, 10 L/min pediatric) & concerning trajectory; sepsis; intubated; physician discretion

Risk factors¹?

No

Social situation appropriate for discharge?

Yes

Alt housing or direct observation admission

Discharge²

Imaging⁴

Pathway as on left, if discharge arrange 24-36 hours follow up²

Refer to ER

Refer to ER

Yes

Disease severity risk factors³

ER referral or arrange direct admission for observation⁵

Discharge (2)
- Continue ARB/ACEI
- Advise Tylenol for fever
- Avoid NSAIDs

Follow up plan
- O2 sat >95% and without risks, f/u precautions
- O2 Sat >95%, with risk factor and no disease severity risks³, f/u 24 to 36 hrs in person or virtual if O2 sat available
- O2 Sat 93-95% and no disease severity risk factors³, f/u 24 to 36 hrs in person or virtual if O2 sat available

Risk Factors (1)
- Age >60
- Health conditions (as defined by the CDC): heart disease (CHF, CAD, HTN); chronic lung disease (COPD, asthma); endocrine disorders (e.g., diabetes); immunosuppression (including autoimmune disease, malignancy, HIV/AIDS); BMI >30; blood disorders (e.g., sickle cell, on blood thinners); chronic kidney disease; chronic liver disease; neurological/neurodevelopmental conditions; current or recent (within 2 weeks) pregnancy

Disease Severity Risk (3)
- Pulmonary infiltrates on imaging⁴
- Exertional SpO₂ <90% immediately after ambulation; after 1-min walk in place; or unable to complete ambulatory

Imaging (4)
- Portable CXR
- CT only when these are inconclusive or to evaluate for other dx

Direct admission for observation (5)
- follow the usual direct admission process
- call for direct admission

1. Risk factors
2. Discharge
3. Disease severity risk factors
4. Imaging
5. ER referral or arrange direct admission for observation
### Virtual Visit Guide

#### 1. Set up
Prepare yourself and decide how to connect
- **Note and AVS templates**
  - `.vvcovid`
  - `.vvcovidavs`
- Scan medical record for risk factors such as:
  - Diabetes
  - Pregnancy
  - Smoking
  - Anxious patients
  - Chronic kidney or liver disease
  - COPD
  - Steroids or other immunosuppressants
  - Cardiovascular disease
  - Asthma

#### 2. Connect
Make video link if possible, otherwise call on the phone
- **Check video and audio**
  - Can you hear/see me?
  - **Name**
  - **Date of birth**
- **Confirm the patient’s identity**
  - **Where are you right now?**
- **Note patient’s phone number in case connection fails**
- **If possible, ensure the patient has privacy**

#### 3. Get started
Quickly assess whether sick or less sick
- **Rapid assessment**
  - If they sound or look very sick, such as too breathless to talk, go direct to key clinical questions
  - Establish what the patient wants out of the consultation, such as:
    - Clinical assessment
    - Referral
    - Certificate
    - Reassurance
    - Advice on self isolation

#### 4. History
Adapt questions to patient’s own medical history
- **Contacts**
  - Close contact with known covid-19 case
  - Immediate family member unwell
  - Occupational risk group
- **History of current illness**
  - Date of first symptoms
- **Most common presentation**
  - Cough
  - Fatigue
  - Fever
  - Short of breath
  - Cough is usually dry but sputum is not uncommon
  - Up to 50% of patients do not have fever at presentation

#### 5. Examination
Assess physical and mental function as best as you can
- **Over phone, ask carer or patient to describe:**
  - State of breathing
  - Colour of face and lips
  - Temperature
  - Pulse
  - Peak flow
  - Blood pressure
  - Oxygen saturation
  - Patient may be able to take their own measurements if they have instruments at home
- **Over video, look for:**
  - General demeanour
  - Skin colour
  - Check respiratory function - inability to talk in full sentences is common in severe illness
    - How is your breathing?
    - Is it worse today than yesterday?
    - What does your breathlessness prevent you doing?

#### 6. Decision and action
Advise and arrange follow-up,
- **Unwell with red flags**
  - PPV, Orenco Respiratory clinics, Richmond tent clinics, Scapoose or local ER/urgent care if from outside POX metro
  - Refer to ER

#### Likely covid-19, but well with milder symptoms
- Self management
- Follow the OHSU Ambulatory COVID testing guideline and provide info on test sites
- Arrange VV in 2 to 3 days for pts with risk factors*

#### Likely covid-19, unwell, deteriorating
- Comorbidities that is difficult to differentiate with covid 19 (i.e. COPD, CHF)

#### Comorbidities that is difficult to differentiate with covid 19
- Follow current stayhome advise
- Refer to in-person visit*

#### Follow up:
- Reduce spread of virus
- If living alone, someone to check on them
- Seek immediate help for red flags
- Maintain fluid intake – 6 to 8 glasses per day
- Acetaminophen
# Oropharyngeal Swab Specimen Collection for the most accurate results for COVID-19

**Title:** Oropharyngeal Swab Specimen Collection  
**Creation Date and Time:** 04/08/2020 1100  
**Employee Roles Impacted:** Nurses, Medical Assistants, Physicians, APP  
**Sponsoring Department:** Infectious Diseases, Medical Branch  
**Modified Date:**  
**Review by Date:** 04/08/2021

## Personal Protective Equipment (PPE)
Wear protective gear based on the patient’s isolation and/or clinical status. The following is a list of required PPE to be worn at all times when collecting a respiratory specimen:
- Gloves
- Face shield
- Procedure mask
- Isolation gown

## Collect Specimen
1. Instruct patient to tilt head back, open mouth, and say "ah."
2. Use tongue depressor to push down the front third of the tongue. Do not gag the patient.
3. Insert the swab without touching the lips, teeth, tongue, cheeks, or uvula.
4. Gently and quickly swab the tonsils from side to side.
5. Carefully withdraw the swab without touching the oral structures.
6. Bend handle of swab 1.5 to 2 inches straight down towards swab tip. Immediately place swab into the transport media. Leave swab in transport media. Swab should be entirely enclosed in tube, no wire should extend past lip of tube. Replace lid to transport media. Tighten to prevent leakage during transport.
7. Follow the standard operating procedures of transport and testing for your location. If off campus, then place specimen on ice.

**Tip:** If patient is seated for the procedure, have patient sit with head against a wall as patients have a tendency to pull away during the procedure.

**Directions:** Open the Camera application on your device. Hold your device steady for 2-3 seconds towards the QR Code you want to scan.
Click on the notification to open the content of the QR Code.
Outpatient E&Ms via Telehealth

Telehealth is two-way audio and visual communication such as using a laptop, tablet, or video chat using a smartphone.

It is NOT audio only.

STARTING DUS 3/1/20, SELECT YOUR E&M LEVEL OF SERVICE BASED ON MDM OR TIME! HISTORY AND EXAM ARE NOT REQUIRED DOCUMENTATION ELEMENTS.

<table>
<thead>
<tr>
<th>New Outpatient Telehealth E&amp;M</th>
<th>Established Outpatient Telehealth E&amp;M</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CPT</strong></td>
<td><strong>MDM</strong></td>
</tr>
<tr>
<td>99201</td>
<td>n/a</td>
</tr>
<tr>
<td>99202</td>
<td>Straightforward MDM</td>
</tr>
<tr>
<td>99203</td>
<td>Low MDM</td>
</tr>
<tr>
<td>99204</td>
<td>Moderate MDM</td>
</tr>
<tr>
<td>99205</td>
<td>High MDM</td>
</tr>
</tbody>
</table>

*The time thresholds have changed and differ from what is in the CPT book and Epic.

**FOR TIME, NEW RULES:**

✓ Face-to-face time with the patient via telehealth video
✓ Does NOT need to have >50% in counseling or coordination of care - **NEW**
✓ Includes non-face-to-face time spent on the patient’s case – **NEW**!
  - Record review
  - Charting
  - Putting in orders
  - Talking with team/other providers

?? **You must document a summary of how the time was spent!!**

Example: I spent a total of 36 minutes on the patient’s care today. This time was spent face-to-face with the patient; reviewing the patient’s recent chart notes, labs, and images; coordinating their care with the team.

**Not for In-Person Face-to-Face Outpatient E&Ms**
Radiology approach considering five groups of patients:

1. Asymptomatic, not COVID-19 lab tested
2. Asymptomatic, test in anticipation surgical aerosol generating procedure with anesthesia
3. Symptomatic, test in progress = PUI
4. Symptomatic, test positive = COVID-19
5. Symptomatic, test negative or undetermined and clinical consistent with COVID-19 = COVID-19
   - Radiology is committed to providing necessary Diagnostic Imaging to all patients.
   - For group 1 and 2 patients, Radiology should be imaging as per any other patient. To the extent there is delay, please contact Radiology Administrator On-Call for assistance.
   - For groups 3-5, Radiology requests that orders for imaging be elevated to a provider-to-provider conversation, to ensure staff safety, see item 2. below.

1. Initial chest imaging, if clinically indicated, should be a portable one-view chest radiograph to help minimize exposure of other vulnerable patients while providing appropriate initial imaging evaluation.
   a) Provider to enter order for X-RAY PORTABLE CHEST 1 VIEW [RAD103253] for patients being worked up for COVID-19
   b) Click the appropriate COVID-19 specific indication (PUI or confirmed), now available on the chest x-ray orders, to allow for adequate protection of the technologists and triage to portable technique.
   c) Emergency Department, Trauma, Day Stay, PACU, and Inpatient Portables to take place in patient’s exam room

(Continued on page 2)
d) Workflow for requesting Outpatient portable CXR:

I. **CHH Immediate Care**
   - Patient to be roomed in 9180
   - Clinic to call the CHH 3rd floor PAS at 8-9910 to check patient in EPIC (M-F)
   - Immediate Care to page Rad Tech directly on the weekend per normal protocol

II. **CHH Family Medicine**
   - Clinic to call the CHH 3rd floor PAS at 8-9910 to check patient in EPIC (M-F)

III. **PPV Internal Medicine**
   - Clinic to call the PPV 4th floor PAS at 45287 to check patient in EPIC

IV. **PPV Respiratory Clinic**
   - Clinic to call 4-4724 when placing the order

V. Outpatients that present in Diagnostic Imaging will be imaged portably in a designated isolated room
   **Can perform portable CXR exams in any other clinic location as needed**

  e) Chest CT is not recommended as the initial screening tool for potential COVID-19 cases. A CT may be helpful in the inpatient setting to assess for complications and if it would change therapeutic management

2. Any cross sectional (CT/MR/US/NM/PET) exams, in department x-ray, or procedure requests for PUI and COVID-19 positive patients:
   a) Radiology provider to referring provider communication required to discuss urgency for exam or procedure and awareness for appropriate PPE.
      i. Radiology providers will reach out to referring clinician after order is placed. Should this occur before order placement, clinician may document discussion on order.
      ii. Radiologist may document in protocol or by direct communication to technologist.

   b) If exam is NOT URGENT – Ordering provider to indicate on order that the exam may be deferred until negative test result available (for PUI) or after patient recovers from COVID-19.

   c) Imaging technologist to confer with referring clinician and/or radiologist if a) or b) are not documented to determine urgency.

Note that orders on asymptomatic patients including those with pre-op COVID-19 lab testing, should proceed as usual.
Description continued:

3. **Nuclear Medicine V/Q scans**
   a) Due to the increase risk of airborne transmission of coronavirus during the ventilation portion of the V/Q scan, we are following national guidelines and performing only perfusion, not ventilation studies at this time.
   b) If a chest x-ray is also available, we can use the PISAPED instead of the PIOPED criteria for diagnosis of pulmonary embolus.
### Recommended Personal Protective Equipment (PPE) to use while caring for a Person Under Investigation (PUI) OR Confirmed COVID-19 patient

<table>
<thead>
<tr>
<th>Personnel Type/Visitor</th>
<th>Type of PPE</th>
</tr>
</thead>
</table>
| Any staff member providing direct care to a Person Under Investigation (PUI) or confirmed COVID-19 patient (Including Provider, RN, CNA, MA, Radiology, Respiratory Therapy, Phlebotomy, Lab Techs, Rehab, Transportation etc.) | • Procedure mask  
• Eye protection (goggles, safety glasses with side protection, or face shield. A rubber seal is not required)  
• Isolation gown  
• Gloves  
• Respirator (N95 or PAPR)  
• Eye protection (goggles, safety glasses with side protection, or face shield. A rubber seal is not required)  
• Isolation gown  
• Gloves |
| Environmental Services, Facilities, Food Services | • Procedure mask  
• Isolation gown  
• Gloves |
| Visitor                                          | • Procedure mask  
• Isolation gown  
• Gloves  
• Procedure mask |
<table>
<thead>
<tr>
<th>Personnel Type/Visitor</th>
<th>Activity</th>
<th>Type of PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triage/Front Desk</td>
<td>PAS specialist/Health Unit Coordinator</td>
<td>• Maintain a distance of at least 6 feet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Give a procedure mask to the patient with respiratory symptoms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• No PPE recommended</td>
</tr>
<tr>
<td>Transportation (in transit)</td>
<td>Transfer of patients between units</td>
<td>• No PPE recommended for staff</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Patient should be wearing a procedure mask and have a clean blanket placed over their body</td>
</tr>
<tr>
<td>Lab technician</td>
<td>Manipulation of respiratory samples (if sample is manipulated outside of a BLS2 hood)</td>
<td>• Procedure mask</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Eye protection (if risk of splash)</td>
</tr>
<tr>
<td>Other staff</td>
<td>Do not provide care or have direct contact with PUI or confirmed COVID-19 patient</td>
<td>• No PPE recommended</td>
</tr>
<tr>
<td>Post mortem care per protocol</td>
<td>In addition: wipe down outer body bag with disinfectant wipes (EPA registered) before leaving location of death</td>
<td>• AGP</td>
</tr>
<tr>
<td></td>
<td>If performing aerosol-generating procedure (AGP), the following PPE is required: N95, gown, gloves and eye protection</td>
<td>• Respirator (N95 or PAPR)</td>
</tr>
<tr>
<td></td>
<td>If not performing an AGP, a procedure mask, gown, gloves and eye protection are needed</td>
<td>• Eye protection (goggles, safety glasses with side protection, or face shield. A rubber seal is not required)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Isolation gown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Non-AGP</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Procedure mask</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gown</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Eye protection</td>
</tr>
</tbody>
</table>
**Recommended Personal Protective Equipment (PPE) to use while caring for a Person Under Investigation (PUI) OR Confirmed COVID-19 patient (Continued)**

<table>
<thead>
<tr>
<th>Personnel Type/Visitor</th>
<th>Activity</th>
<th>Type of PPE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation (in transit with morgue cart)</td>
<td>Place patient in morgue</td>
<td>• Gloves</td>
</tr>
<tr>
<td></td>
<td>Disinfect morgue cart, morgue key and door handles between uses</td>
<td></td>
</tr>
</tbody>
</table>

Sources:
- UW Medicine Autopsy and After Death Services (AADS) COVID 19 response
- WHO: Rational use of personal protective equipment for coronavirus disease (COVID-19)
Retesting of Asymptomatic Patients

Documentation for COVID-19: Adult & Pediatrics

<table>
<thead>
<tr>
<th>Title: Retesting of Asymptomatic Patients for COVID-19</th>
<th>Creation Date and Time: 04/09/2020 2330</th>
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<tr>
<td>Employee Roles Impacted: Adult and Pediatric Inpatient Clinicians</td>
<td>Modified Date: 04/17/2020</td>
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<tr>
<td>Review by Date: 04/10/2021</td>
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</tr>
<tr>
<td>Sponsoring Department: Medical Branch, COVID-19 Clinical Lab Taskforce</td>
<td></td>
</tr>
</tbody>
</table>

Description:
The below guidance applies to an asymptomatic patient who was tested and had a not detected COVID test. It does not apply to symptomatic patients, or to patients who have had a test that detected COVID-19.

When should I retest a previously tested, asymptomatic patient?
The hospitalized patients who have previously had a test that did not detect COVID-19 and remain asymptomatic should only be retested in the following circumstances:

1. More than 3 days have passed since initial negative test
   AND
2. Need for surgery or aerosol-generating procedure within the next 3 days

When can I stop serial testing of an asymptomatic patient who is hospitalized?
You can stop serial testing of an asymptomatic hospitalized patient when either:

1. 2 tests have returned not detected and the patient remains asymptomatic without known or suspected COVID-19 exposures
   OR
2. The patient’s initial COVID test was not detected, the patient has been hospitalized for 14 days and the patient remains asymptomatic without known or suspected COVID-19 exposures

Please note that these testing criteria are subject to change as we learn more about COVID-19, including the incidence of healthcare-associated COVID-19 at OHSU (currently zero cases).
OHSU HEALTHCARE

Policy #  HC-IC-120-POL  Title:  Standard Precautions Policy
Effective Date:  2/4/2019  Category:  Infection Control
Origination Date:  7/1996  Next Review Date:  2/4/2022

**PURPOSE:**

This policy describes OHSU Healthcare processes for standard precautions in patient care.

**PERSONS AFFECTED:**

All OHSU Healthcare workforce members.

**POLICY:**

Standard Precautions are a set of practices that apply to all OHSU Healthcare workforce members in OHSU healthcare settings at all times regardless of the patient's suspected or confirmed infection status. Standard Precautions are based on the principle that all blood, body fluids, secretions, excretions (except sweat), non-intact skin, and mucous membranes may contain transmissible infectious agents. Standard Precautions protect healthcare workers from recognized and unrecognized sources of infection. Additional infection control precautions, such as Contact, Contact Plus, Droplet, or Airborne may be added based on laboratory findings or patient symptoms.

**DEFINITIONS:**

1. **Food** - raw, cooked, or processed edible substance, ice, beverages, chewing gum or ingredient used or intended for use or sale in whole or in part for consumption.
2. **IFU** – Instructions for Use (provided by the manufacturer of equipment/devices)
3. **Mask** – Refers to either a surgical mask or a procedure mask and includes those that tie behind the head and those that have ear loops
4. **OPIM** – Other potentially infectious material (for example, body fluids, secretions, and wound drainage)
5. **PAFR** – Powered Air Purifying Respirator
6. **PPE** – Personal protective equipment (for example, gloves, gown, mask, goggles, face shield)

**RESPONSIBILITIES:**

Healthcare workforce members are to follow Standard Precautions at all times when working with patients, equipment or environment that might be contaminated with patient blood, body fluid, or OPIM.

Standard Precautions require that the healthcare worker be mindful during their clinical practice and assess for risks of transmission, and to be prepared by gathering necessary protective equipment prior to providing patient care.

**PROCEDURES:**

1. **Hand hygiene**
   a. Perform hand hygiene as indicated in the OHSU Hand Hygiene policy.
2. **Respiratory hygiene/cough etiquette**
a. Perform Respiratory hygiene/cough etiquette as indicated in the OHSU Respiratory Hygiene/Cough Etiquette Policy.

3. **Appropriate use of PPE**
   a. **Glove use**
      i. Wear clean, non-sterile gloves for contact with blood, body fluids, secretions, mucous membranes, and contaminated surfaces and equipment.
      ii. Change gloves between tasks and procedures on the same patient, after contact with material that may contain a high concentration of microorganisms, when holes or tears are noted, or when the glove’s ability to function as a barrier is compromised.
      iii. Remove gloves and perform hand hygiene promptly after use, before touching non-contaminated items and environmental surfaces and before going to another patient.
      iv. For most patient care activities performed outside of restricted areas, non-sterile gloves are appropriate. Sterile gloves should be worn when performing invasive procedures or when working in a sterile field.
   b. **Masks and goggles**
      i. Wear mask and goggles or face shield to protect mucous membranes of the eyes, nose, and mouth during patient care activities that are likely to generate a patient cough, splashes or sprays of blood or other body fluids. Examples include endotracheal intubation and collection of a nasopharyngeal swab. A surgical mask should also be worn when eye protection is necessary.
      ii. Wear surgical mask when placing a catheter or injecting material into the spinal canal or subdural space such as during myelograms, intrathecal injection of chemotherapy and spinal or epidural anesthesia.
   c. **Gowns**
      i. Wear a fluid-resistant gown to protect skin and to prevent soiling of clothing during patient care activities that are likely to result in contact with blood, drainage, and OPIM.
      ii. Wear a fluid-resistant gown, sterile gloves, mask and eye protection when deep tissues/organ spaces are entered or manipulated with an introducer, wire, trocar or similar instrument.
   d. **PPE for Patient resuscitation**
      i. During patient resuscitation, use a mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.
   e. **Procedure-specific PPE** must be worn when indicated. For example, maximal barrier precautions including cap, mask, sterile gown, and sterile gloves must be worn for central line insertion (refer to policy “Invasive Intravascular Catheters Placed in OR – Placement and Follow-up” for more information).
   f. **Remove all PPE immediately** after use and discard in regular trash. If PPE is dripping with blood or OPIM, discard in biohazard trash. Do not wear the same PPE to care for another patient or outside of the patient/exam/procedure room. PPE worn in any patient care activity or procedure area is to be considered contaminated. To prevent cross-contamination, PPE should be removed in the following sequence to first remove the most contaminated then least contaminated items: gloves, goggles or face shield, gown, mask. Perform hand hygiene after PPE removal.
   g. **When transporting a patient**, wear appropriate PPE if patient contact is necessary (such as having contact with oral secretions). To prevent environmental contamination, do not touch surfaces such as hand rails and elevator buttons while wearing PPE.
   h. **When working in restricted and semi-restricted areas**, refer to the Surgical Scrub Attire Policy.

4. **Safe work practices**
   a. If uniform or clothing becomes soiled with blood or body fluids:
      i. Don gloves and remove clothing immediately; handle clothing as little as possible
      ii. Do not rinse clothing
      iii. Wash contaminated skin with soap and water prior to changing into hospital scrubs
      iv. Paper scrubs are available from Logistics (ext. 4-5666)
      v. Cloth hospital scrubs can be obtained by using the following process:
         1. Employee contacts the Logistics Warehouse at extension 4-5666 to request a temporary surgical scrub station personal identification number (PIN)
2. Employee uses the temporary PIN to access and return one set of hospital-owned surgical scrubs within 48 hours or the start of their next scheduled shift

3. Employees in cloth hospital scrubs must adhere to the Surgical Scrub Attire policy with regard to warm-up jackets and cover jackets
   vi. Put soiled personal clothing in a plastic bag, seal immediately and label for transport home. Once home, place hospital-furnished clothing in plastic linen bag, to be returned to the hospital for laundering
   vii. At home to protect from cross-contamination, wash soiled personal clothing separately from other laundry using: 160°F (71°C) water and detergent. For water less than 160°F (71°C) use detergent and a bleach-containing product. Mechanical drying of the clothing is recommended.

b. Appropriate handling of laundry
   i. Prevent soiled linen from touching Healthcare workforce members skin or mucous membranes
   ii. Do not pre-rinse soiled linens in patient care areas

c. Food and drink
   i. In patient care areas, managers and other area leaders can designate specific locations where drinks with lids are allowed (for example, the main nursing station lower level counter). These locations must be separate from areas where lab specimens or contaminated equipment are handled or stored, even temporarily.
   ii. Eating, drinking from open containers or coffee cups, and utensils are prohibited at laboratory workstations or in patient care areas including the charting area outside patient/exam rooms, or in any area visible by patients.
   iii. Food and drink are not allowed in restricted and semi-restricted areas. Refer to the Surgical Scrub Attire Policy for a list of these areas.

5. Clean and safe reusable equipment
   a. Clean, disinfect and/or sterilize reusable patient care equipment between each patient according to the IFU.
   b. Single-use items are not used on more than one patient, and they are properly discarded after use.
   c. Prevent soiled equipment from contacting Healthcare workforce members’ skin, mucous membranes or clothing.
   d. Disinfect environmental surfaces that had contact with contaminated equipment. See Cleaning and Disinfection Policy for more information.

6. Safe handling of needles and other sharps
   a. If present, engage safety device immediately after use.
   b. Do not reuse, recap, bend, break, or hand-manipulate used needles.
   c. If recapping is required, use a one-handed scoop technique only.
   d. Place used sharps in designated puncture-resistant containers.

7. Patient placement
   a. Follow room requirements as specified in the Transmission-Based Isolation Precautions Policy for placement of patients requiring isolation precautions.
   b. Prioritize for single-patient room if patient is at increased risk of transmitting infectious agent(s), is likely to grossly contaminate the environment, does not maintain appropriate hygiene, or is at increased risk of acquiring infection or developing adverse outcome following infection.

RELEVANT REFERENCES:


RELATED DOCUMENTS/EXTERNAL LINKS:
• Hand Hygiene Policy
• Surgical Scrub Attire Policy
• Invasive Intravascular Catheters Placed in OR – Placement and Follow-up
• Transmission-Based Isolation Precautions policy
• Cleaning and Disinfection Policy
• Linen Laundering Policy
• Respiratory Hygiene/Cough Etiquette Policy
• Needles and Sharps Management Policy

TITLE, POLICY OWNER:

Manager, Infection Prevention and Control

APPROVING COMMITTEE(S):

Infection Prevention and Control Committee

FINAL APPROVAL:

Policy Steering Committee

Supersedes: 7/96; 7/18/01, 6/18/08; 11/8/11, minor wording changes to #4; 09/18/12; 11/2014; 12/2016; 8/2018; 2/2019
**PURPOSE:**

This policy describes the use of isolation precautions within OHSU Healthcare.

**PERSONS AFFECTED:**

All OHSU Healthcare workforce members.

**POLICY:**

Transmission-based precautions, Airborne, Contact, Contact Plus, and Droplet, are to be used for patients known or suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission in hospitals and clinics. These isolation precautions categories may be combined for diseases that have multiple routes of transmission. Transmission-based precautions require special patient placement and the use of personal protective equipment (PPE). Whether Transmission-based precautions are used singly or in combination, they must be followed in addition to Standard Precautions. Refer to the Standard Precautions Policy.

Protective precautions (previously termed Neutropenic precautions) are used to protect severely immunocompromised patients (e.g., transplant patients, neutropenic patients) from the hospital environment. Basic Protective precautions involve Standard precautions combined with scrupulous hand hygiene. Additional measures may be used at the discretion of the attending physician. If additional measures are desired, they must be specifically detailed within the physician’s order for Protective precautions. Physicians who wish to place a patient in a positive pressure airflow room must specify this in a written orders.

**Note:** Transmission-based precautions specific for Ambulatory Care and the Emergency Department can be found at the end of this document.

**RESPONSIBILITIES:**

It is the responsibility of all OHSU Healthcare workforce members involved in the care of patients requiring transmission-based precautions to understand and comply with this policy.

**PROCEDURES:**

1. **SCREENING FOR TRANSMISSION-BASED PRECAUTIONS**

   Admitting residents and all staff involved with the patient should use the following guidelines to determine the need for Transmission-based precautions. In all patient-care settings, if the patient presents with any of the symptoms or exposures detailed below, the patient may be incubating a communicable disease. The final decision to initiate isolation precautions is based on a combination of the below history, disease incubation period, and the patient’s physical assessment and medical history. The following information is to be obtained from the referral source prior to admitting to the patient-care unit:
a. Adults and children >7 years old
   i. Presence of:
      1. Cough
      2. Stiff neck and headache
      3. Hemoptysis
      4. Vomiting
      5. Rash
      6. Diarrhea
      7. Fever > 38.3°C (101°F)
      8. Weight loss (>15 lbs in adults with unexplained weight loss)
      9. Night sweats (adults only)
      10. Poorly controlled bodily fluids (i.e. excessive wound drainage, incontinent)
      11. History of infection with other multi-drug resistant organisms
      12. Large open wounds
      13. Lice infestation or scabies
   ii. Exposure to any communicable diseases:
      1. Chickenpox/shingles
      2. German measles (rubella)
      3. Hepatitis A
      4. Influenza
      5. Measles
      6. Meningococcal disease
      7. Mumps
      8. Norovirus
      9. Pertussis (whooping cough)
      10. Respiratory Syncytial Virus (RSV)
      11. Scabies
      12. Tuberculosis
      13. Rash with fever
      14. Middle Eastern Respiratory Virus (MERS)
      15. Other emerging communicable diseases (i.e. Ebola)
   iii. Immunization status or previous disease:
      1. Chickenpox
      2. German measles (rubella)
      3. Influenza
      4. Measles
      5. Mumps
      6. Pertussis (whooping cough)
   iv. Medical History
      1. Cystic Fibrosis
      2. HIV
      3. Solid Organ Transplant or BMT
      4. Immunosuppression

b. Children 6 years old and under:
   i. Presence of:
      1. Runny nose
      2. Stiff neck and headache
      3. Cough
      4. Wheezing
      5. Rash
      6. Vomiting
      7. Diarrhea
      8. Fever > 38.3°C (101°F)
9. Large open wounds
10. Night sweats
11. Poorly controlled bodily fluids (i.e. excessive wound drainage, incontinent)
12. History of infection with other multi-drug resistant organisms
13. Lice infestation or scabies

ii. Exposure to any communicable diseases:
1. Chickenpox/shingles
2. German measles (rubella)
3. Hepatitis A
4. Measles
5. Meningococcal disease
6. Mumps
7. Norovirus
8. Pertussis (whooping cough)
9. Respiratory Syncytial Virus (RSV)
10. Rotavirus
11. Scabies
12. Roseola
13. Tuberculosis
14. Middle Eastern Respiratory Virus (MERS)
15. Other emerging communicable diseases (i.e. Ebola)

iii. Immunization status to:
1. Chickenpox
2. German measles (rubella)
3. Influenza
4. Measles
5. Mumps
6. Pertussis (whooping cough)

2. INITIATING TRANSMISSION-BASED PRECAUTIONS
a. Ordering Transmission-based precautions
   i. Transmission-based precautions may be initiated and ordered within the patient record by nursing
      staff, residents, faculty or other licensed independent practitioners. Refer to the Transmission-Based
      Precautions Grid for disease-specific transmission-based precautions requirements.
   b. Patient care staff are responsible for:
      i. Communicating with the admitting/bed placement staff regarding room requirements,
      ii. Education of the patient and visitor regarding the purpose for transmission-based isolation
          precautions, and
      iii. Instruction of patients and visitors in appropriate activities while in precautions. (Refer to the
          specific transmission-based precautions categories later in this policy for further detail.)

3. ORDERING AND USING ISOLATION EQUIPMENT
a. Isolation Carts
   i. Are to be used for all patients requiring transmission-based precautions, unless the adjacent room
      has a cart that must be shared due to space restrictions.
   ii. Are ordered through the Equipment Pool: identify the patient’s name, medical record number, and
       room number. Specify if patient is on Airborne Precautions.
   iii. The Equipment Pool will deliver the isolation cart and restock it daily.
   iv. For Airborne Precautions:
       1. A Powered Air Purifying Respirator (PAPR) must be ordered from the Equipment Pool. This
          needs to be available for staff that have either not been fit-tested for an N95 mask or are
          unable to obtain a seal with the N95 mask.

b. Isolation Precautions Signs
   i. Isolation signs are used to communicate transmission-based precautions among members of the
      healthcare team and patient visitors.
ii. The nurse initiating transmission-based precautions is responsible for placing the appropriate sign next to the patient’s door (under the room number if possible), or on the visible side of the door.

iii. Colored signs are routinely stocked in the isolation carts. Until the cart arrives, temporary signs can be obtained from the unit stock, or printed from the Infection Prevention and Control website.

4. **PATIENT PLACEMENT**
   a. Patients entering the OHSU system requiring transmission-based precautions are to be assigned to rooms based on the known or suspected communicable disease, the disease's isolation category requirements, and room and cohorting availability.
   b. Refer to the Isolation Grid for more detail.

5. **EPIC Infection Activity Banner:**
   a. An Infection Activity banner will display when opening a patient chart in Epic if the patient has been identified as having VRE, MRSA, TB or multi-drug resistant organism (MDRO). The banner is used by the Department of Infection Prevention and Control to alert staff at all points of patient entry in the OHSU system that the patient has been identified as having a condition that may require transmission-based precautions.
      i. The following acronyms are used within the infection control banner:
         1. MDRO: Multi-Drug Resistant Organism
         2. VRE: Vancomycin Resistant Enterococcus
         3. MRSA: Methicillin Resistant *Staphylococcus aureus*
         4. TB: Pulmonary Tuberculosis
         5. C. diff: *Clostridium difficile*
   b. The Infection Activity banners are placed and removed by the Department of Infection Prevention and Control.
   c. Contact Infection Prevention and Control (4-6694) for questions about a specific patient’s banner.

6. **COHORTING PATIENTS**
   a. Cohorting is the placement of patients with the same condition together in the same location. While every effort should be made to place patients requiring transmission-based precautions in private rooms, cohorting may be necessary under certain circumstances. These circumstances include outbreak conditions, lack of available private rooms, and shortage of health care personnel. Patients with infectious diarrhea, such as *C. difficile* infection or norovirus, or excessive secretions/drainage should not be cohorting with others. Cohorting may be initiated by Bed Placement, the patient’s physician, or the unit charge nurse. There may be situations which do not fit these guidelines. For further assistance, contact Infection Prevention and Control (4-6694).
   b. Guidelines for cohorting patients include:
      i. Patients sharing a room must have the same organism or condition requiring transmission-based precautions.
      ii. Each patient should be managed as if in a private room. For example: after caring for one patient, personal protective equipment should be removed, hands cleaned with soap and water or alcohol-based hand sanitizer, and new personal protective equipment put on before providing care to the other patient.
      iii. The decision to stop cohorting patients should follow the same criteria used for routine discontinuing of transmission-based precautions (refer to information in the following sections as well as the Transmission-Based Precautions Grid, De-isolation Grid, and diseases specific policies.

7. **VISITORS**
   a. The following are guidelines for visitors of patients in transmission-based precautions:
      i. Visitors are to follow disease-specific visitor guidelines (refer to Transmission-Based Precautions Grid).
      ii. Visitors may choose to wear personal protective equipment (PPE) when it is not required. If visitors elect not to wear PPE, they may not visit family waiting rooms or pantries.
      iii. Regardless of whether visitors choose to wear PPE, these guidelines must be followed:
         1. Visitors must perform hand hygiene prior to leaving the patient room.
2. Visitors should not visit other patient rooms. If this cannot be avoided (as in the case of clergy member), the use of PPE is not optional and must be worn as directed by the isolation precautions sign.
3. Visitor and patient siblings are not to visit breastfeeding rooms, playrooms, or schoolrooms.
4. Visitors may go to the cafeterias, coffee carts, lobbies, courtyards, and sky bridge.

8. DISCONTINUING TRANSMISSION-BASED PRECAUTIONS
   a. Refer to the Transmission-Based Precautions Grid and the De-isolation Grid for specific criteria for discontinuing Transmission-based precautions.
   b. There must be an order in the electronic health record to discontinue isolation precautions.
   c. The isolation sign is to remain posted until Environmental Services has completed terminally cleaning the room. They will remove the sign and contact the Equipment Pool to remove the isolation cart.

TYPES OF TRANSMISSION-BASED PRECAUTIONS
9. AIRBORNE PRECAUTIONS
   a. DISEASES REQUIRING AIRBORNE PRECAUTIONS: Refer to Transmission-Based Precautions Grid for a complete list.
   b. Airborne Precautions are used (in addition to Standard Precautions) for patients known or suspected to be infected with microorganisms transmitted by small droplet nuclei that remain suspended in the air. These nuclei become widely dispersed by air currents within a room or over long distances. Airborne transmission occurs when the widely dispersed nuclei containing microorganisms become inhaled by a susceptible host.
   c. ROOM
      i. Private room with negative air flow ventilation (airborne infection isolation (Al) room) required; door must remain closed except for entering and exiting.
      ii. Do not admit patient unless a negative pressure room is available.
      iii. For rooms without pressure indicators outside the door, call Physical Plant prior to patient admission to check room’s air flow direction.
      iv. Pressure setting to negative or inflow setting must be checked and documented by nursing staff each shift.
   d. PPE
      i. For tuberculosis (TB) and suspect TB patients, a NIOSH approved, fit-tested N-95 respirator or Powered Air Purifying Respirator (PAPR) is required to enter the patient room.
      ii. Persons with facial hair cannot achieve an adequate fit of mask and should use a PAPR.
      iii. N-95 respirators may be reused by one person for up to a 12-hour shift. A fit check must be performed prior to room entry.
      iv. Remove respirator after leaving room and closing door.
      v. Patients leaving their room for a medically necessary procedure must wear a procedure mask (not an N-95).
   e. VISITORS
      i. Visitors to follow disease-specific visitor guidelines. Refer to the Transmission-Based Precautions Grid and TB visitor algorithm
      ii. Educate and supervise visitors in patient room.
      iii. Ensure that visitors perform a mask fit check prior to each room entry.
      iv. Screen all visitors for signs or symptoms consistent with the patient’s illness.
   f. FIT CHECK PROCESS FOR N-95 RESPIRATOR
      i. Inspect N-95 respirator for defects (tears or holes)
      ii. Place 2 straps on head; 1 at crown of head, second around back of head at neck.
      iii. Place respirator on face and form nosepiece tightly across bridge of nose.
      iv. To assure good seal take a sharp deep breath. Respirator should collapse during inhale and expand during exhale.
      v. If air enters or escapes around edges of respirator during fit check, reform nosepiece and adjust the bands to achieve a seal.
vi. The N-95 respirator can be used by one person up to 12-hours and between patients as long as it does not become damaged, soiled, or wet.

h. ADDITIONAL NOTES
   i. Inadequately treated patients with TB (e.g., newly diagnosed TB or non-compliant with medications) must be masked and counseled of the need for consistent mask wearing while on the OHSU campus. For patients who exhibit noncompliance with this requirement, please contact the Department of Infection Prevention and Control for further assistance.
   ii. For patients with diseases transmitted by multiple routes, follow additional transmission-based precautions requirements in addition to Airborne Precautions. Example: for Varicella Zoster (chicken pox) or disseminated Varicella Zoster (shingles), Contact Precautions should be followed in addition to Airborne Precautions.

j. LINENS
   i. Linen must be handled according to the Standard Precautions and Linen policies. Double bagging of linen is not necessary.

k. PATIENT-CARE EQUIPMENT
   i. No specific requirements beyond Standard Precautions. Routine cleaning and disinfection is acceptable. Refer to the Standard Precautions, and Cleaning and Disinfection, policies for further information.

l. REGULATED MEDICAL WASTE
   i. Waste must be handled according to the Standard Precautions and Regulated Medical Waste policies.

m. PATIENT TRANSPORT
   i. Patients in Airborne Precautions may be transported outside the room only for essential tests and procedures that cannot be completed inside the room. In addition to Internal Patient Transport guidelines, the following steps must be followed whenever a patient must be transported out of the isolation precautions room:
      1. Contact Infection Prevention & Control for guidance on transport of patients on Airborne Precautions.
      2. The patient care unit must notify the transportation staff and destination staff that the patient requires Airborne Precautions.
      3. The patient must wear a procedure mask upon leaving the ALL room, and must remain masked until returning to room.
      4. For young pediatric patients who cannot be masked, drape the transport crib with a sheet as completely as possible.
      5. A tissue disposal bag should be placed within the patient’s reach.
      6. Transportation staff may remove their own masks and perform hand hygiene after leaving the room once the patient is masked.
      7. Upon arrival to the destination, the patient must be taken directly into the examination/procedure room. Do not leave the patient in an open waiting area.
      8. Before leaving the area, transportation staff must report to the receiving staff that the patient requires Airborne Precautions.
      9. Clean the transport vehicle according to routine cleaning practices. Refer to the Standard Precautions and Cleaning and Disinfection policies for cleaning instructions.

n. DIAGNOSTIC TESTS/INTERVENTIONAL PROCEDURES
   i. The following steps should be followed whenever a patient must have any essential diagnostic test or interventional procedure away from the ALL room (in addition to the Patient Transport steps):
      1. The patient care unit must notify the diagnostic staff that the patient requires Airborne Precautions.
      2. The patient must remain masked (yellow procedure mask) for the entire procedure, unless it is performed in a negative airflow room (e.g., Bronchoscopy Lab). If procedure is performed in a negative air flow room and patient is unmasked for the procedure, all staff must wear N95 respirator or PAPR.
3. After test is complete and before patient pick-up, transportation staff should be notified that the patient requires Airborne Precautions.
4. The patient must be returned immediately to the All room and not left in a waiting or holding area.
5. The diagnostic equipment/table must be cleaned according to routine cleaning practices. Refer to the Standard Precautions and Cleaning and Disinfection policies.

m. PATIENT ACTIVITIES
   i. Patients may leave their rooms only for essential tests or procedures that cannot be completed inside the room. Case-specific allowances may be made to accommodate special patient care needs, only in consultation with Infection Prevention and Control staff.

n. DISCHARGE OF PATIENT FROM AIRBORNE PRECAUTIONS
   i. After discharging a patient from an All room, the Airborne Precautions door sign must remain posted for one hour, to prevent persons from entering room without appropriate PPE. The All room is safe to enter unmasked if the room has been closed for 1 hour after patient discharge. This includes ambulatory settings and operating rooms.

o. CLEANING
   i. Daily, detail, and discharge cleaning is the same for all All rooms. Refer to the Housekeeping Manual for further instructions. Within the first hour after the patient has been discharged, the room may be cleaned if the appropriate N-95 mask or PAPR is worn, the doors remain closed, and the room remains on negative pressure airflow.

Note: Transmission-based precautions specific for Ambulatory Care and Emergency Department can be found at the end of this document.

10. CONTACT PRECAUTIONS
a. CONDITIONS REQUIRING CONTACT PRECAUTIONS: Refer to the Transmission-Based Precautions Grid for a complete list. Common conditions are multi-drug resistant organisms, scabies, lice, and patients with large or open draining wounds.

b. Contact precautions are used (in addition to Standard Precautions) for specified patients with poorly controlled bodily fluids, respiratory secretions, or who are known or suspected to be infected or colonized with epidemiologically significant microorganisms transmitted by direct or indirect contact. Direct transmission involves skin-to-skin contact and physical transfer of microorganisms from an infected or colonized person to a susceptible host. Direct transmission may occur in routine patient care activities. Indirect transmission involves contact of a susceptible person with a contaminated intermediate object, such as contaminated instruments or equipment that have not been adequately cleaned and disinfected between patients.

c. ROOM
   i. Private room with private toilet and bathing facilities are preferred. May cohort patients if necessary. Refer to # 6 above for guidelines on patient cohorting.
   ii. Patients should not share bathrooms, unless cohorted for same condition. An alternative option is a bedside commode if a private room is unavailable.
   iii. Regular airflow; door may remain open.
   iv. Contact Infection Prevention and Control Department if neither a private room with appropriate facilities nor a shared room with appropriate facilities are available.

d. PPE
   i. Gloves and gown are both required at all times, upon room entry.
   ii. Change gloves after contact with infectious material that may contain a high concentration of microorganisms (e.g., fecal material, wound drainage). Refer to the Standard Precautions policy for guidelines on glove usage. Perform hand hygiene with soap and water or an alcohol-based hand sanitizer after removing gloves and before leaving room.
   iii. Gown required at all times, upon room entry. Change gown if it becomes soiled. Remove gown before leaving the patient’s room.
   iv. Do not re-use gowns or save used gloves.
e. VISITORS
   i. Visitors to follow disease-specific visitor guidelines. Refer to the Transmission-Based Precautions Grid.
   ii. Educate and supervise visitors in patient room. Refer to (“OHSU Visitor Information Sheet”).
   iii. Screen visitors for signs or symptoms consistent with the patient’s illness.

f. INITIATION AND NOTIFICATION OF CONTACT PRECAUTIONS
   i. Refer to #2 above for information regarding staff responsibilities for the initiation and notification of Contact Precautions. The Department of Infection Prevention and Control will place an Infection Activity banner in the patient’s Epic chart to alert users that the patient is known to be infected/colonized with other multi-drug resistant bacteria.

g. LINENS
   i. Unbagged contaminated linen is to be handled only while wearing appropriate PPE. Once linen has been bagged, it must be handled according to the Standard Precautions and Linen Laundering policies. Double bagging of linen is not necessary, unless it is to be dropped down the linen chute.

h. PATIENT CARE EQUIPMENT
   i. Whenever possible, dedicate the use of reusable patient care equipment to the patient. If the use of shared patient equipment is unavoidable, all equipment must be properly cleaned and disinfected before being used for another patient.
   ii. Single-use items should be discarded in the appropriate waste container.
   iii. Items returned to the Equipment Pool should be rinsed clean of any blood or body fluids wearing appropriate PPE and placed in a clear plastic bag before returning to Equipment Pool.
   iv. Large items that cannot be bagged should be wiped clean of any blood or body fluids, disinfected, and placed in the dirty utility room for collection by Equipment Pool staff. Items that cannot be disinfected or bagged are to be discarded.
   v. Refer to the Standard precautions and Cleaning and Disinfection policies for further information.

i. REGULATED MEDICAL WASTE
   i. Unbagged waste should be handled only by staff wearing appropriate PPE. After waste has been bagged, it must be handled according to the Standard precautions and Regulated Medical Waste policies.

j. PATIENT TRANSPORT
   i. Patients in Contact precautions may be transported outside the room only for essential tests and procedures that cannot be completed inside the room. In addition to Internal Patient Transport guidelines, the following steps must be followed whenever a patient must be transported away from their room:
      1. The patient care unit must notify the transportation staff and destination staff that the patient requires Contact Precautions.
      2. The patient is to be transferred to a stretcher, transport crib, or wheelchair, and then covered with a clean sheet obtained from the linen cart. If transfer to another transport vehicle is not possible, then the bed rails, top headboard, and footboards should be disinfected prior to leaving the room.
      3. Transportation staff must remove gown and gloves used in transferring patient to transport vehicle, then perform hand hygiene before leaving the patient room. Refer to Internal Patient Transport guidelines.
      4. Upon arrival at destination, the patient must be taken directly into the examination/procedure room. Do not leave the patient in an open waiting area.
      5. Before leaving the area, transportation staff must report to the receiving staff that the patient requires Contact Precautions.
      6. Before leaving the area, all transportation staff must remove gloves used to transport patient, then perform hand hygiene.
      7. The patient’s transport vehicle must not be used for any other patient until it has been disinfected. It must be disinfected before leaving the patient care unit. Refer to Cleaning and Disinfection policy for cleaning instructions.

k. DIAGNOSTIC TESTS/INTERVENTIONAL PROCEDURES
The following steps should be followed whenever a patient must have any type of diagnostic test or interventional procedure away from their room (in addition to the Patient Transport Policy):

1. The patient care unit must notify the diagnostic staff that the patient requires Contact Precautions.
2. The patient should be transferred to the diagnostic equipment/table, then covered with a clean sheet obtained from the linen cart.
3. Diagnostic staff should remove gloves and gowns used in transferring patient, then perform hand hygiene before donning clean gloves to proceed with test.
4. After test is completed and before patient pickup, transportation staff should be notified that the patient requires Contact Precautions.
5. The diagnostic equipment/table must not be used for any other patient until it has been disinfected with a hospital-grade disinfectant (even if a cover sheet has been used). Refer to Cleaning and Disinfection policy.

I. **PATIENT ACTIVITIES**

1. Patients may leave their rooms only for essential tests or procedures that cannot be completed inside the room. Case-specific allowances may be made to accommodate special patient care needs only in consultation with Infection Prevention and Control (See Multi-drug Resistant Organisms policy). Responsible patients who can follow directions and are able to contain body substances such as the hospital environment will not be contaminated may go on supervised walks after they don clean clothing and perform hand hygiene under the supervision of a health care worker.

m. **CLEANING**

   1. Daily, detail, and discharge cleaning is the same for all rooms. Refer to the Housekeeping Manual for further instructions.

   **Note:** Transmission-based precautions specific for Ambulatory Care and Emergency Department can be found at the end of this document.

11. **CONTACT PLUS PRECAUTIONS**

a. **CONDITIONS REQUIRING CONTACT PLUS PRECAUTIONS:** Refer to the Transmission-Based Precautions Grid for a complete list. Most commonly used for *Clostridium difficile* or Norovirus.

b. Contact Plus Precautions are used (in addition to Standard Precautions) for patients with *Clostridium difficile* (C. difficile) diarrhea, or Norovirus, both of which are transmitted by direct or indirect transmission. Direct transmission may occur in routine patient care activities. Indirect transmission involves contact of a susceptible person with contaminated environment or object, such as contaminated instruments or equipment that have not been adequately cleaned and disinfected between patients.

c. **ROOM**

   1. Private room with private toilet and bathing facilities are preferred. May cohort patients if necessary. Refer to # 6 above for guidelines on patient cohorting.
   2. Patients should not share bathrooms, unless cohorted for same condition. An alternative option is a bedside commode if a private room is unavailable.
   3. Regular air flow, door may remain open.
   4. Contact Infection Prevention and Control (46694) if neither a private room with appropriate facilities nor a shared room with appropriate facilities is available.

d. **PPE**

   1. Gloves and gowns are both required at all times upon room entry.
   2. Change gloves after contact with infectious material that may contain a high concentration of microorganisms (e.g., fecal material, wound drainage). Refer to the Standard Precautions policy for guidelines on glove usage. Perform hand hygiene with a soap and water for a minimum of 15 seconds after removing gloves and before leaving room.
   3. A gown is required at all times upon room entry. Change gown if it becomes soiled. Remove gown before leaving the patient’s room.

e. **VISITORS**
i. Visitors to follow disease-specific visitor guidelines. Refer to the Transmission-Based Precautions Grid.
ii. Educate and supervise visitors in patient room. Refer to OHSU Visitor Information Sheet.
iii. Screen visitors for signs or symptoms consistent with the patient’s illness.

f. LINENS
i. Unbagged contaminated linen is to be handled wearing appropriate PPE. Once linen has been bagged, it must be handled according to the Standard Precautions and Linen Laundering policies. Double bagging of linen is not necessary, unless it is to be dropped down the linen chute.

g. PATIENT CARE EQUIPMENT
i. Whenever possible, dedicate the use of reusable patient care equipment to the patient on transmission-based precautions. If the use of shared patient equipment is unavoidable, any piece of equipment must be properly cleaned and disinfected with a sporicidal agent (i.e. bleach wipes) before being used for another patient.
ii. Shared patient care items used in a Contact Plus Precautions room must either be disinfected with a sporicidal agent or placed in a plastic bag. These bagged items should be placed in the dirty utility room for Equipment Pool collection.
iii. Single-use items should be discarded in the appropriate waste container.
iv. Small reusable items should be rinsed clean of any blood or body fluids and placed in a clear plastic bag before returning to Equipment Pool.
v. Large items that cannot be bagged should be wiped clean of any blood or body fluids, disinfected with a sporicidal agent, and placed in the dirty utility room for collection by Equipment Pool. Items that cannot be disinfected or bagged are to be discarded.
vi. Refer to the Standard precautions, Cleaning and Disinfection policies for further information.

h. REGULATED MEDICAL WASTE
i. Unbagged waste should be handled by staff wearing appropriate PPE. After waste has been bagged, it must be handled according to the Standard Precautions and Regulated Medical Waste Guidelines policies.

i. PATIENT TRANSPORT
i. Patients in Contact Plus precautions may be transported outside the room only for essential tests and procedures that cannot be completed inside the room. In addition to Internal Patient Transport guidelines, the following steps must be followed whenever a patient must be transported out of an isolation precautions room.
ii. The patient care unit must notify transportation and destination staff that the patient requires Contact Plus precautions.
iii. The patient is to be transferred to a stretcher, transport crib, or wheelchair, then covered with a clean sheet obtained from the linen cart. If transfer to another transport vehicle is not possible, then the bed rails, headboard, and footboards should be disinfected prior to leaving the room.
iv. Transportation staff must remove gown and gloves used in transferring patient to transport vehicle, then wash hands with soap and water before leaving the patient room. A new clean pair of gloves should be worn to push transport vehicle. Refer to Internal Patient Transport guidelines.
v. Upon arrival to destination, the patient must be taken directly into the examination/procedure room. Do not leave the patient in an open waiting area.
vi. Before leaving the area, transportation staff should report to the receiving staff that the patient requires Contact Plus precautions.
vii. Before leaving the area, all transportation staff should remove gloves used to transport patient, then wash hands with soap and water.
viii. The patient’s transport vehicle must not be used for any other patient until it has been disinfected. It must be disinfected before leaving the patient care unit. Refer to Cleaning and Disinfection and Sterilization Procedure policies for cleaning instructions.

j. DIAGNOSTIC TESTS/INTERVENTIONAL PROCEDURES
i. The following steps should be followed whenever a patient must have any type of diagnostic test or interventional procedure away from their room (in addition to the Patient Transport Policy):
1. The patient care unit must notify diagnostic staff that the patient requires Contact Plus Precautions.
2. The patient should be transferred to the diagnostic equipment/table, then covered with a clean sheet obtained from the linen cart.
3. Diagnostic staff should remove gloves and gowns used in transferring patient, then wash hands with soap and water before donning clean gloves to proceed with test.
4. After test is complete and before patient pick-up, transportation staff should be notified that the patient requires Contact Plus Precautions.
5. The diagnostic equipment/table must not be used for any other patient until it has been disinfected with a hospital-grade disinfectant (even if a cover sheet has been used). Refer to Cleaning and Disinfection and Sterilization policies.

k. PATIENT ACTIVITIES
   i. Patients may leave their rooms only for essential tests or procedures that cannot be completed inside the room. Case-specific allowances may be made to accommodate special patient care needs only in consultation with Infection Prevention and Control. Responsible patients who can follow directions and are able to contain body substances such that the hospital environment will not be contaminated, may go on supervised walks after they don clean clothing and wash their hands under the supervision of a health care worker.

l. DISCONTINUING CONTACT PLUS PRECAUTIONS
   i. Refer to the De-isolation grid

m. CLEANING
   i. Daily, detail, and discharge cleaning is the same for all rooms, with the addition of cleaning high tough objects with a sporicidal agent (i.e. bleach wipes) in Contact Plus rooms. Refer to the Housekeeping Manual for further instructions.
   ii. Cleaning equipment used in the Contact Precautions room must never be used in any other patient room or patient care areas until thoroughly disinfected by Environmental Services.

Note: Transmission-based precautions specific for Ambulatory Care and Emergency Department can be found at the end of this document.

12. DROPLET PRECAUTIONS
   a. CONDITIONS REQUIRING DROPLET PRECAUTIONS: Refer to the Transmission-Based Precautions Grid for a complete listing. Examples include influenza A or B, pertussis, and meningococcal disease.
   b. Droplet precautions are used (in addition to Standard precautions) for patients known or suspected to be infected or colonized with certain microorganisms transmitted by large-particle respiratory droplets. Droplet transmission occurs when droplets are generated by an infected or colonized patient during coughing, sneezing, talking, or the performance of procedures such as suctioning, and are deposited on the conjunctiva or the mucous membranes of the nose or mouth of a susceptible person.
   c. ROOM
      i. Private room with private toilet and bathing facilities required; may cohort patients if necessary.
      ii. Regular air ventilation adequate; door may remain open.
      iii. Contact Infection Prevention and Control if neither a private room nor a cohort room with appropriate facilities is available.
   d. PPE
      i. Procedure mask required to enter the room.
      ii. Remove mask before leaving room.
   e. VISITORS
      i. Visitors to follow disease-specific visitor guidelines. Refer to the Transmission-Based Precautions Grid.
      ii. Educate and supervise visitors in patient room.
      iii. Screen visitors for signs or symptoms consistent with the patient’s illness.
   f. LINENS
i. Linens must be handled according to the Standard Precautions and Linen policies. Double bagging of linen is not necessary.

g. PATIENT CARE EQUIPMENT
   i. No specific requirements beyond Standard Precautions. Routine cleaning is acceptable. Refer to the Standard Precautions, Cleaning and Disinfection policies for further information.

h. REGULATED MEDICAL WASTE
   i. Waste must be handled according to the Standard Precautions and Related Medical Waste policies.

i. PATIENT TRANSPORT
   i. Patients in Droplet precautions may be transported outside the room only for essential tests and procedures that cannot be completed inside the patient’s room. In addition to routine patient transport guidelines, the following steps must be followed:
      1. The patient care unit must notify the transportation staff and destination staff that the patient requires Droplet precautions.
      2. The patient should wear a procedure mask at all times when out of the isolation precautions room. For young pediatric patients who cannot be masked, drape the transport crib with a sheet as completely as possible.
      3. Transportation staff may remove their own masks after the patient has been masked. Refer to Internal Patient Transport guidelines.
      4. Upon arrival to destination, the patient should be taken directly into the examination/procedure room. Do not leave the patient in an open waiting area.
      5. Before leaving the area, transportation staff must report to the receiving staff that the patient requires Droplet precautions.

j. DIAGNOSTIC TESTS/INTERVENTIONAL PROCEDURES
   i. The following steps should be followed whenever a patient must have any essential diagnostic test or interventional procedure away from their room (in addition to the patient transport steps):
      1. The patient care unit must notify the diagnostic staff that the patient requires Droplet Precautions.
      2. The patient should remain masked for the entire procedure. If the patient must be unmasked for the procedure, all staff must wear appropriate PPE.
      3. After test is completed and before patient pick-up, transportation staff should be notified that the patient requires Droplet precautions.
      4. The diagnostic equipment/table must be cleaned according to routine cleaning policy. Refer to the Standard Precautions, Cleaning and Disinfection, and Sterilization policies.

k. PATIENT ACTIVITIES
   i. Patients may leave their rooms only for essential tests or procedures that cannot be completed inside the room. Case-specific allowances may be made to accommodate special patient care needs only in consultation with Infection Prevention and Control staff.

l. DISCONTINUING DROPLET PRECAUTIONS
   i. Refer to the Transmission-Based Precautions Grid and the De-isolation Grid.

m. CLEANING
   i. Daily, detail, and discharge cleaning is the same for all Droplet precautions rooms. Refer to the Housekeeping Manual for further instructions.

Note: Transmission-based precautions specific for Ambulatory and Emergency Department can be found at the end of this document.

13. PROTECTIVE PRECAUTIONS
   a. In contrast to other precautions categories which protect the hospital environment from communicable organisms, certain immunocompromised patients (e.g. solid organ transplant recipients, stem cell transplant recipients, neutropenic patients) must be protected from the hospital environment.
   b. Patients of these program-specific services may develop infections/diseases that require Airborne, Contact, Contact Plus, or Droplet precautions. The decision to place patients in transmission-based precautions in
addition to Protective Precautions is made by Infection Prevention & Control staff in conjunction with the patient's care team. Additional measures may be ordered at the discretion of the attending physician.

c. ROOM
   i. Private room.
   ii. Windows and doors remain closed.

d. PPE
   i. Immediate post-operative period: mask/gloves required for entry into patient room.
   ii. Late post-operative period: no specific personal protective equipment (PPE) required for entry.
   iii. It is recommended that the patient wear an N-95 mask when leaving their room for their own protection.

   e. See the Protective Precautions for Neutropenic Patients policy for more information.

14. AMBULATORY CARE SUPPLEMENT

For admitted inpatients seen in an ambulatory clinic for a procedure, follow Standard precautions in addition to the inpatient requirements for Transmission-based precautions.

For outpatients seen in an ambulatory clinic, follow Standard precautions in addition to the requirements listed below:

a. Outpatient Requirements: Airborne Precautions

   i. ROOM
      1. Take the patient immediately into the examination/procedure room with door closed.
      2. The doors of the room must remain closed for at least 1 hour after patient discharge.

   ii. PPE
      1. Follow the Respiratory Hygiene-Cough Etiquette policy immediately upon patient arrival to outpatient area (e.g., waiting area, lobby).
      2. Mask the patient immediately (a procedure mask is adequate). The patient must remain masked during the entire visit.
      3. If a patient must be unmasked or cannot be masked, providers must use N-95 respirators or PAPRs in addition to Standard precautions (which includes protective eyewear as appropriate).

   iii. VISITORS
      1. Visitors must follow Standard precautions and additionally:
         a. Screen all visitors for signs or symptoms consistent with the patient's illness.
         b. If the visitor has symptoms consistent with the patient's illness, they should wear a procedure mask.
         c. If the visitor is asymptomatic and will accompany the patient to the exam room or procedure room, they should wear an N-95 mask.
      2. Ensure that visitors perform a fit check when N-95 mask is worn.

   iv. CLEANING
      1. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).
      2. If the patient was masked for their entire visit, there is no delay with clinic room turnover. If the patient removed their mask in the exam room, the room must remain vacant with the door closed for 1 hour to ensure adequate air exchanges. Staff may clean the room during this time with appropriate respiratory protection (N-95 or PAPR).

b. Outpatient Requirements: Contact precautions

   i. ROOM
      1. Prioritize the placement of these patients into the examination/procedure room so as to minimize the risk of transmission in shared areas.

   ii. PPE
1. Provide covering or dressing for the patient in order to cover and contain draining lesions (e.g. wound or incision).

2. Staff should wear gowns and gloves in accordance with Standard precautions (i.e. when coming into contact with body fluids or non-intact skin, or when clothing may become contaminated), and according to the Ambulatory Isolation Grid.

iii. VISITORS
1. Visitors must follow Standard precautions.

iv. CLEANING
1. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).

C. Outpatient Requirements: Contact Plus precautions
i. ROOM
1. Prioritize the placement of these patients into the examination/procedure room so as to minimize the risk of transmission in shared areas.

ii. PPE
1. Staff should wear gowns and gloves in accordance with Standard Precautions (i.e. when coming into contact with body fluids or non-intact skin, or when clothing may become contaminated), and in accordance with the Ambulatory Isolation Grid.

iii. VISITORS
1. Visitors must follow Standard Precautions with hand hygiene performed with soap and water rather than alcohol-based hand sanitizer.

iv. CLEANING
1. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved sporicidal agent (i.e. bleach wipes).

D. Outpatient Requirements: Droplet precautions
i. ROOM
1. Take the patient immediately into the examination/procedure room.

ii. PPE
1. Mask the patient (a procedure mask is adequate). The patient must remain masked during the entire visit.
2. If the patient must be unmasked or cannot be masked, providers must wear procedure masks in addition to Standard Precautions (which includes protective eyewear as appropriate).
3. Follow respiratory etiquette: instruct patients to cover their coughs with a tissue, dispose of tissue properly in a waste receptacle, and perform hand hygiene after disposing of tissues.
4. In outpatient clinics and the Emergency Department, patients may be requested to wear a procedure mask during increased community prevalence of communicable respiratory diseases.

iii. VISITORS
1. Visitors must follow Standard precautions and additionally:
   a. Screen all visitors for signs or symptoms consistent with the patient’s illness.
   b. If the visitor has symptoms consistent with the patient’s illness, they should wear a procedure mask.
   c. If the visitor is asymptomatic and will accompany the patient to the exam room or procedure room, they should wear a procedure mask.

iv. CLEANING
1. Cleaning and disinfection of multi-patient use equipment and all high touch surfaces in the room in between every patient should be completed with the hospital-approved disinfectant product (i.e. Sani wipes).

RELEVANT REFERENCES

RELATED DOCUMENTS

• Isolatable Infections and Conditions
• Standard Precautions Policy
• Transmission-Based Precautions Grid
• Isolation Precautions Signs
• Multidrug Resistant Organisms
• Cleaning and Disinfection
• Linen Laundering
• Regulated Medical Waste
• Housekeeping Manual (available from Environmental Services)
• OHSU Visitor Information Sheet Adult
• OHSU Visitor Information Sheet Children
• Protective Precautions for Neutropenic Patients

TITLE, POLICY OWNER:

Manager, Infection Prevention and Control

APPROVING COMMITTEE(S):

Infection Prevention and Control Committee

FINAL APPROVAL:

Infection Prevention and Control Committee

Guidelines for Management of COVID-19 in Hospitalized Adult Patients

Currently, there are no treatments for COVID-19 that are supported by evidence from clinical trials. The efficacy of the treatments included in these guidelines is unknown and the decision to use these therapies in patient care should be made on a patient-by-patient basis. The agents recommended for COVID-19 are based on limited preclinical and clinical evidence of safety and efficacy. Please also see treatments that are NOT recommended due to lack of efficacy and risk of adverse events.

1. Criteria for treatment*
   A. Documented positive (or presumptive, if state lab) test result for COVID-19
      *AND*
   B. Patient specific criteria:
      i. Any hospitalized patient with severe lower respiratory tract disease or ARDS, *(defined according to ATS criteria: ATS disease severity) compatible with COVID-19 infection.*
         *OR*
      ii. Hospitalized patients with signs and symptoms compatible with COVID-19 infection, *with or without* documented lower respiratory tract disease, who are at high risk for poor outcome, as defined by any one of the following:
         a. Age ≥ 60 years old
         b. Underlying medical comorbidities (cardiac or pulmonary disease, dialysis, diabetes)
         c. Solid organ or stem cell transplant recipient
         d. Diagnosis of hematologic malignancy being treated with systemic chemotherapy
         e. Receipt of biologic agent or prednisone > 0.5 mg/kg/day (or equivalent)

*Meeting criteria for treatment requires A AND B-i or B-ii
Please call the COVID non-consult pager or the infectious disease consult pager if the patient exceeds the scope of these criteria.
2. Treatment regimens and principles

A. Remdesivir: If remdesivir is available, it should be used as first-line treatment.\(^1\) Gilead has developed an expanded access protocol for remdesivir; however, access has remained limited.

B. Hydroxychloroquine: Patients receiving hydroxychloroquine must undergo cardiac monitoring as outlined in the OHSU hydroxychloroquine QTC monitoring guidelines at this link. Clinical studies of hydroxychloroquine are inconclusive due to design limitations and lack of peer review. English language studies are listed in the references.\(^2-5\) The optimal dosing regimen and duration for hydroxychloroquine for this indication are unknown but a reasonable regimen may be:

i. Dosage: hydroxychloroquine 400 mg bid x 1 day followed by 200 mg bid x 4 days

ii. Hydroxychloroquine will require ID attending approval, with further approval for release from ID Pharmacy.

C. Important hydroxychloroquine/chloroquine drug information:

i. Cardiac monitoring required per OHSU hydroxychloroquine QTC monitoring guidelines.

ii. Hydroxychloroquine is a substrate of cytochrome P450 2C8, 3A4, and a moderate inhibitor of CYP450 2D6. An updated list of drug-drug interactions for COVID-19 therapeutics is maintained by the University of Liverpool. The very long half-life of hydroxychloroquine, \(-40\) days, should be considered after the treatment course is completed.

iii. Hydroxychloroquine carries a risk of neurotoxicity. Special caution is required in patients with Myasthenia Gravis.

iv. Acute toxicity from hydroxychloroquine is rare; however, complications include QRS widening and dysrhythmia, CNS depression, hypotension and hypokalemia.

D. Post exposure prophylaxis: There are no trials for post exposure prophylaxis or treatment for healthcare workers that are ongoing at OHSU; However, people who are interested may self-enroll in a randomized placebo-controlled study to receive hydroxychloroquine or placebo through the following link:

https://covidpep.umn.edu

E. Not recommended: At the current time, based on lack of clinical data showing benefit and in some cases potential for harm, we do NOT recommend ANY of the following:

i. Lopinavir/ritonavir or other HIV protease inhibitors are under investigation; however, an open label placebo controlled randomized trial of lopinavir/ritonavir did not show any benefit in patients with SaO2 \(\leq 94\%)\(^6\).
Description continued:

ii. Azithromycin was combined with hydroxychloroquine in several patients in a small non-randomized clinical study that evaluated detection of SARS-CoV-2. While the results of this study are encouraging, they are inconclusive and do not support the routine use of azithromycin in combination with hydroxychloroquine.

iii. Discontinuing or changing ACE inhibitor /ARB: Currently, the major relevant professional societies do not recommend altering therapy due to COVID-19.

iv. ribavirin

v. interferon

vi. steroids (unless strongly indicated for another reason) WHO guidelines steroids and COVID-19

vii. tocilizumab: There is very little supporting evidence at this time and this drug is restricted in hospital due to its need for patients with proven indications.

viii. ivermectin: in vitro data indicate that therapeutic concentrations would be toxic.

3. Investigational agents:
Several investigational agents are being tested for treatment of COVID-19. Patients with severe illness may be considered for treatment with an investigational agent either in the context of a study or through compassionate use by emergency investigational drug application with the FDA. More information regarding use of investigational agents will be included here as it becomes available.

References and links:

CDC COVID-19 treatment guidance


