Kaweah Delta Health Care District COVID-19 Frequently Asked Questions

COVID-19 Infection Control Questions and Answers

What personal protective equipment (PPE) should be worn by individuals transporting patients who are confirmed with or under investigation for COVID-19 within a healthcare facility? For example, what PPE should be worn when transporting a patient to radiology for imaging that cannot be performed in the patient room?

In general, transport and movement of the patient outside of their room should be limited to medically essential purposes. If being transported outside of the room, such as to radiology, healthcare personnel (HCP) in the receiving area should be notified in advance of transporting the patient. For transport, the patient should wear a facemask to contain secretions and be covered with a clean sheet.

If transport personnel must prepare the patient for transport (e.g., transfer them to the wheelchair or gurney), transport personnel should wear all recommended PPE (gloves, a gown, respiratory protection that is at least as protective as a fit-tested NIOSH-certified disposable N95 filtering facepiece respirator or facemask—if a respirator is not available—and eye protection [i.e., goggles or disposable face shield that covers the front and sides of the face]). This recommendation is needed because these interactions typically involve close, often face-to-face, contact with the patient in an enclosed space (e.g., patient room). Once the patient has been transferred to the wheelchair or gurney (and prior to exiting the room), transporters should remove their gown, gloves, and eye protection and perform hand hygiene.

If the patient is wearing a facemask, no recommendation for PPE is made typically for HCP transporting patients with a respiratory infection from the patient's room to the destination. However, given current limitations in knowledge regarding COVID-19 and following the currently cautious approach for risk stratification and monitoring of healthcare personnel caring for patients with COVID-19, use of a facemask by the transporter is recommended for anything more than brief encounters with COVID-19 patients. Additional PPE should not be required unless there is an anticipated need to provide medical assistance during transport (e.g., helping the patient replace a dislodged facemask).

After arrival at their destination, receiving personnel (e.g., in radiology) and the transporter (if assisting with transfer) should perform hand hygiene and wear all recommended PPE. If still wearing their original respirator or facemask, the transporter should take care to avoid self-contamination when donning the remainder of the recommended PPE. This cautious approach will be refined and updated as more information becomes available and as response needs change in the United States.

Interim guidance for EMS personnel transporting patients with confirmed or suspected COVID-19 is available here. EMS personnel should wear all recommended PPE because they are providing direct medical care and in close contact with the patient for longer periods of time.

What PPE should be worn by HCP providing care to asymptomatic patients with a history of exposure to COVID-19 who are being evaluated for a non-infectious complaint (e.g., hypertension or hyperglycemia)?

Standard Precautions should be followed when caring for any patient, regardless of suspected or confirmed COVID-19. If the patient is afebrile (temperature is less than 100.0^{o}F) and otherwise without even mild symptoms* that might be consistent with COVID-19 (e.g., cough, sore throat, shortness of breath), then precautions specific to COVID-19 are not required. However, until the patient is determined to be without such symptoms, HCP should wear all recommended PPE for the patient encounter. If the primary evaluation confirms the patient is without symptoms, management and need for any Transmission-Based Precautions should be based with the condition for which they are being evaluated (e.g., patient colonized with a drug-resistant organism), rather than potential exposure to COVID-19.

This public health response is an important opportunity to reinforce the importance of strict adherence to Standard Precautions during all patient encounters. Standard Precautions are based on the principles that all blood, body

fluids, secretions, excretions except sweat, nonintact skin, and mucous membranes may contain transmissible infectious agents. The application of Standard Precautions is determined by the nature of the HCP-patient interaction and the extent of anticipated blood, body fluids, and pathogen exposure. For example, a facemask and eye protection should be worn during the care of any patient if splashes, sprays, or coughs could occur during the patient encounter. Similarly, gloves should be worn if contact with body fluids, mucous membranes, or nonintact skin are anticipated.

*Note: In addition to cough and shortness of breath, nonspecific symptoms such as sore throat, myalgia, fatigue, nausea, and diarrhea have been noted as initial symptoms in some cases of COVID-19. These symptoms can have several alternative explanations; however, failure to identify and implement proper precautions in a healthcare setting for persons infected with COVID-19 can contribute to widespread transmission in that facility due to the presence of susceptible patients and close interactions with healthcare personnel. For this reason, a lower temperature of 100.0^{o}F and the inclusion of mild and non-specific symptoms should be used by healthcare settings evaluating these patients to increase the ability to detect even mild cases of COVID-19.

What personal protective equipment (PPE) should be worn by environmental services (EVS) personnel who clean and disinfect rooms of hospitalized patients with COVID-19?

In general, only essential personnel should enter the room of patients with COVID-19. Healthcare facilities should consider assigning daily cleaning and disinfection of high-touch surfaces to nursing personnel who will already be in the room providing care to the patient. If this responsibility is assigned to EVS personnel, they should wear all recommended PPE when in the room. PPE should be removed upon leaving the room, immediately followed by performance of hand hygiene.

After discharge, terminal cleaning may be performed by EVS personnel. They should delay entry into the room until a sufficient time has elapsed for enough air changes to remove potentially infectious particles. We do not yet know how long SARS-CoV-2 remains infectious in the air. Regardless, EVS personnel should refrain from entering the vacated room until sufficient time has elapsed for enough air changes to remove potentially infectious particles (more information on clearance rates under differing ventilation conditions is available). After this time has elapsed, EVS personnel may enter the room and should wear a gown and gloves when performing terminal cleaning. A facemask and eye protection should be added if splashes or sprays during cleaning and disinfection activities are anticipated or otherwise required based on the selected cleaning products. Shoe covers are not recommended at this time for personnel caring for patients with COVID-19.

Which procedures are considered aerosol generating procedures in healthcare settings?

Some procedures performed on patients are more likely to generate higher concentrations of infectious respiratory aerosols than coughing, sneezing, talking, or breathing. These aerosol generating procedures (AGPs) potentially put healthcare personnel and others at an increased risk for pathogen exposure and infection.

Development of a comprehensive list of AGPs for healthcare settings has not been possible, due to limitations in available data on which procedures may generate potentially infectious aerosols and the challenges in determining if reported transmissions during AGPs are due to aerosols or other exposures.

There is neither expert consensus, nor sufficient supporting data, to create a definitive and comprehensive list of AGPs for healthcare settings.

Commonly performed medical procedures that are often considered AGPs, or that create uncontrolled respiratory secretions, include:

- open suctioning of airways
- sputum induction
- cardiopulmonary resuscitation
- endotracheal intubation and extubation
- non-invasive ventilation (e.g., BiPAP, CPAP)
- bronchoscopy
- manual ventilation

Based on limited available data, it is uncertain whether aerosols generated from some procedures may be infectious, such as:

- nebulizer administration*
- high flow O2 delivery

*Aerosols generated by nebulizers are derived from medication in the nebulizer. It is uncertain whether potential associations between performing this common procedure and increased risk of infection might be due to aerosols generated by the procedure or due to increased contact between those administering the nebulized medication and infected patients.

References related to aerosol generating procedures:

Tran K, Cimon K, Severn M, Pessoa-Silva CL, Conly J (2012) Aerosol Generating Procedures and Risk of Transmission of Acute Respiratory Infections to Healthcare Workers: A Systematic Review. PLoS ONE 7(4); https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3338532/#!po=72.2222external icon).

Where should nasopharyngeal swabs be performed on a known or suspected COVID-19 patient, and with what PPE?

The collection of nasopharyngeal (NP) swabs from patients with known or suspected COVID-19 can be performed in a regular examination room with the door closed. Use of an airborne infection isolation room for nasopharyngeal specimen collection is not required. HCP in the room should wear an N95 or higher-level respirator (or facemask if a respirator is not available), eye protection, gloves, and a gown. If respirators are not readily available, they should be prioritized for other procedures at higher risk for producing infectious aerosols (e.g., intubation), instead of for collecting NP swabs.

Do all patients with confirmed or suspected COVID-19 need to be placed in airborne infection isolation rooms?

No. Updated CDC *Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings* recommends placing patients in a regular examination room with the door closed. Airborne infection isolation rooms should be reserved for patients undergoing aerosol generating procedures or for diagnoses such as active tuberculosis.

How long does an examination room need to remain vacant after being occupied by a patient with confirmed or suspected COVID-19?

Although spread of SARS-CoV-2 is believed to be primarily via respiratory droplets, the contribution of small respirable particles to close proximity transmission is currently uncertain. Airborne transmission from person-to-person over long distances is unlikely.

The amount of time that the air inside an examination room remains potentially infectious is not known and may depend on a number of factors including the size of the room, the number of air changes per hour, how long the patient was in the room, if the patient was coughing or sneezing, and if an aerosol-generating procedure was performed. Facilities will need to consider these factors when deciding when the vacated room can be entered by someone who is not wearing PPE.

For a patient who was not coughing or sneezing, did not undergo an aerosol-generating procedure, and occupied the room for a short period of time (e.g., a few minutes), any risk to HCP and subsequent patients likely dissipates over a matter of minutes. However, for a patient who was coughing and remained in the room for a longer period of time or underwent an aerosol-generating procedure, the risk period is likely longer.

For these higher risk scenarios, it is reasonable to apply a similar time period as that used for pathogens spread by the airborne route (e.g., measles, tuberculosis) and to restrict HCP and patients without PPE from entering the room until sufficient time has elapsed for enough air changes to remove potentially infectious particles.

General guidance on clearance rates under differing ventilation conditions is available.

In addition to ensuring sufficient time for enough air changes to remove potentially infectious particles, HCP should clean and disinfect environmental surfaces and shared equipment before the room is used for another patient.

My hospital is experiencing a shortage of isolation gowns. To preserve our supply, can we stop using gowns for the care of patients with methicillin-resistant Staphylococcus aureus (MRSA) and other endemic multidrug-resistant organisms (MDROs), and *Clostridioides difficile*?

CDC has released information about strategies to optimize the supply of isolation gowns. Healthcare facilities should refer to that guidance and implement the recommended strategies to optimize their current supply of gowns. This includes shifting toward the use of washable cloth gowns, if feasible.

The use of gowns as part of Contact Precautions in the context of MDROs has been implemented primarily to reduce the risk of transmission to other patients rather than to protect healthcare personnel (HCP). Facilities with shortages could consider suspending the use of gowns for the care of patients with endemic MDROs, such as MRSA, VRE, and ESBL-producing Gram-negative bacilli except as required for Standard Precautions. Facilities should assess their local epidemiology to determine which MDROs are considered endemic. Regardless of the use of gowns, HCP at facilities should continue to wear gloves for contact with these patients and their environment. Hand hygiene should continue to be emphasized. Facilities should also attempt to place patients colonized or infected with an MDRO in a private room, if available.

Caring for patients who have highly resistant Gram-negative organisms (e.g., carbapenem-resistant Enterobacteriacae) and other MDROs (e.g., *Candida auris*) that are not considered endemic: Rather than gowns being donned for every room entry, they should be reserved for use as part of Standard Precautions and also prioritized for high-contact patient care activities that pose highest risk for transfer of pathogens from the patient to HCP. Examples of such high-contact care activities include dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use (central line, urinary catheter, feeding tube, tracheostomy/ventilator), and wound care. To further preserve gowns, HCP are recommended to bundle high-contact care activities as part of individual care encounters. Regardless of the use of gowns, HCP at facilities should continue to wear gloves for contact with these patients and their environment. Hand hygiene should continue to be emphasized. Facilities should also attempt to place patients colonized or infected with an MDRO in a private room, if available.

Caring for patients with *Clostridioides difficile* infections (CDI): Facilities should continue using Contact Precautions (putting on a gown and gloves upon entry into the patient's room and placing the patient in a private room) for the care of symptomatic patients with CDI. As part of a supplemental strategy to prevent transmission of CDI, some facilities have implemented Contact Precautions for the care of patients at high risk for CDI who have asymptomatic carriage of *Clostridioides difficile*. There are limited data about the role of asymptomatic carriage in transmission of CDI. In this setting of a critical national shortage of gowns, facilities should consider suspending this approach until the shortage is addressed. Gowns should still be used as part of Standard Precautions.

Frequently Asked Questions about Hand Hygiene for Healthcare Personnel Responding to COVID-2019

What method of hand hygiene is recommended for healthcare personnel in response to COVID-2019?

The CDC continues to recommend the use of alcohol-based hand rub (ABHR) as the primary method for hand hygiene in most clinical situations1. ABHR effectively reduces the number of pathogens that may be present on the hands of healthcare personnel after brief interactions with patients or the care environment. In addition, frequent use of ABHR formulated with emollients is less damaging to the skin than frequent hand washing. This factor, along with ease of use and greater access, leads to greater overall compliance with use of ABHR than hand washing with soap and water. Hands should be washed for at least 20 seconds with soap and water when visibly soiled, before eating, and after using the restroom.

Are benzalkonium chloride-containing hand rub products an acceptable alternative to ABHR for COVID-19?

CDC does not have a recommended alternative to hand rub products with greater than 60% ethanol or 70% isopropanol as active ingredients. Benzalkonium chloride, along with both ethanol and isopropanol, is deemed eligible by FDAexternal icon for use in the formulation of healthcare personnel hand rubs2. However, available evidence indicates benzalkonium chloride has less reliable activity against coronavirus than either of the alcohols3.

How should healthcare organizations respond to severe shortages of ABHR?

Healthcare organizations that encounter severe shortages of ABHR (and have exhausted supply chain access to efficacious products) may consider local production of formulations as described by the FDA Policy for Compounding of Certain Alcohol-Based Hand Sanitizer Productsexternal icon. This policy remains in effect through April 30, 2020. Formulations included in the FDA guidance are consistent with World Health Organization production guidancepdf iconexternal icon. These locally produced products are intended for routine healthcare personnel hand cleaning, must not contain active ingredients other than those specified in the FDA guidance, and should not take the place of other regulated skin antiseptics (e.g. surgical hand rub). To avoid contamination with spore-forming organisms, WHO formulations require a 72-hour post-production quarantine. Organizations should revert to the use of commercially produced, FDA-approved product once such supplies again become available.

Can healthcare facilities substitute unformulated ethanol in concentrations greater than 60% or isopropanol greater than 70% for use as alcohol-based hand rub?

Given the drying effect of alcohols and the importance of maintaining skin integrity of healthcare personnel with their need to perform hand hygiene frequently, alcohols should not be used unless properly formulated with emollients.

COVID-19 Risk

Who is at risk for infection with the virus that causes COVID-19?

Currently, those at greatest risk of infection are persons who have had prolonged, unprotected close contact with a patient with symptomatic, confirmed COVID-19 and those who live in or have recently been to areas with sustained transmission. For more information, see Risk Assessment.

Who is at risk for severe disease from COVID-19?

The available data are currently insufficient to clearly identify risk factors for severe clinical outcomes. Based on limited data that are available for COVID-19 patients, and data from related coronaviruses such as severe acute respiratory syndrome coronavirus (SARS-CoV) and MERS-CoV, people who may be at risk for more severe outcomes include older adults and persons who have certain underlying chronic medical conditions. Those underlying chronic conditions include chronic lung disease, moderate to severe asthma, cardiac disease with complications, diabetes, or immunocompromising conditions. See also Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease 2019 (COVID-19) and Information for Healthcare Professionals: COVID-19 and Underlying Conditions.

If my patient has one of the underlying medical conditions listed, what is my patient's risk and what should I tell my patient?

- There is insufficient information on COVID-19 to determine risk for each underlying medical condition. Epidemiologists at CDC are analyzing data around the clock to help us more precisely understand the risks of COVID-19. Information will be shared as soon as it's available.
- You know your patient – their overall health and how well their conditions are managed. Use your clinical judgement to evaluate on a case by case basis.
- Tell patients with underlying medical conditions that increase their risk of severe illness or poorer outcomes from COVID-19:
    - To stay home as much as possible to reduce their risk of being exposed.
    - Encourage patients to closely follow their care plans for management of their chronic disease, including better glycemic or blood pressure control.
- If possible, work with patients to manage their underlying condition to the best of their ability, including ensuring that patients have sufficient medication and supplies. Encourage all patients, regardless of risk, to:
    - Take steps to protect yourself.
    - **Call** your healthcare provider if you are sick with a fever, cough, or shortness of breath.
    - Follow CDC travel guidelines and the recommendations of your state and local health officials.
- Fear and anxiety about a disease can feel overwhelming, especially for those who might be at higher risk or are experiencing social isolation, and for healthcare providers that are treating patients at higher risk. Do what you can to take care of your mental health and encourage your patients to do the same.

Are pregnant healthcare personnel at increased risk for adverse outcomes if they care for patients with COVID-19?

Pregnant healthcare personnel (HCP) should follow risk assessment and infection control guidelines for HCP exposed to patients with suspected or confirmed COVID-19. Adherence to recommended infection prevention and control practices is an important part of protecting all HCP in healthcare settings. Information on COVID-19 in pregnancy is very limited; facilities may want to consider limiting exposure of pregnant HCP to patients with confirmed or suspected COVID-19, especially during higher risk procedures (e.g., aerosol-generating procedures) if feasible based on staffing availability.

Transmission

When is someone infectious?

The onset and duration of viral shedding and the period of infectiousness for COVID-19 are not yet known. It is possible that SARS-CoV-2 RNA may be detectable in the upper or lower respiratory tract for weeks after illness onset, similar to infections with MERS-CoV and SARS-CoV. However, detection of viral RNA does not necessarily mean that infectious virus is present. There are reports of asymptomatic infections (detection of virus

with no development of symptoms) and pre-symptomatic infections (detection of virus prior to development of symptoms) with SARS-CoV-2, but their role in transmission is not yet known. Based on existing literature, the incubation period (the time from exposure to development of symptoms) of SARS-CoV-2 and other coronaviruses (e.g. MERS-CoV, SARS-CoV) ranges from 2–14 days.

Which body fluids can spread infection?

SARS-CoV-2 RNA has been detected in upper and lower respiratory tract specimens, and SARS-CoV-2 virus has been isolated from upper respiratory tract specimens and bronchoalveolar lavage fluid. SARS-CoV-2 RNA has been detected in blood and stool specimens, and SARS-CoV-2 virus has been isolated in cell culture from the stool of some patients, including a patient with pneumonia 15 days after symptom onset. The duration of SARS-CoV-2 RNA detection in upper and lower respiratory tract specimens and in extrapulmonary specimens is not yet known but may be several weeks or longer. Duration of several week or longer has been observed in cases of MERS-CoV or SARS-CoV infection. While viable, infectious SARS-CoV has been isolated from respiratory, blood, urine, and stool specimens, viable, infectious MERS-CoV has only been isolated from respiratory tract specimens. It is not yet known whether other non-respiratory body fluids from an infected person including vomit, urine, breast milk, or semen can contain viable, infectious SARS-CoV-2.

Can people who recover from COVID-19 be re-infected with SARS-CoV-2?

The immune response, including duration of immunity, to SARS-CoV-2 infection is not yet understood. Patients with MERS-CoV are unlikely to be re-infected shortly after they recover, but it is not yet known whether similar immune protection will be observed for patients with COVID-19.

Testing, Diagnosis, and Notification

How do you test a patient for infection with SARS-CoV-2?

- Clinicians are able to access laboratory testing through a network of state and local public health laboratories across the country. The Association of Public Health Laboratoriesexternal iconexternal icon provides a list of states and territories with laboratories that are using COVID-19 diagnostic tests. For more information, see Testing in U.S. Clinicians should direct testing questions to their state health departments.
- Several clinical laboratories are receiving authorization for testing from the U.S. Food and Drug Administration (FDA) under an Emergency Use Authorization. They are expected to be able to offer a larger volume of testing for COVID-19. You can contact your current laboratory vendor to find out when the test will be available.
- There are a number of commercially available SARS-CoV-2 diagnostic assays that have received FDA Emergency Use Authorizationexternal iconexternal icon.
- See recommendations for reporting, testing, and specimen collection at Evaluating and Testing Persons for COVID-19.

Do existing commercially available multiple respiratory virus panels, such as those manufactured by Biofire or Genmark, detect SARS-CoV-2?

Not currently. These multi-pathogen molecular assays can detect a number of human respiratory viruses, including other human coronaviruses that can cause acute respiratory illness, but they do not currently detect SARS-CoV-2. In the future, it is expected that these assays will have the ability to detect SARS-CoV-2 in respiratory specimens.

If a patient tests positive for another respiratory virus, should that exclude SARS-CoV-2 as a cause of illness?

Patients can be infected with more than one virus at the same time. Coinfections with other respiratory viruses in people with COVID-19 have been reported. Therefore, identifying infection with one respiratory virus does not exclude SARS-CoV-2 virus infection.

Should chest CT be used for diagnosis of COVID-19?

Clinicians considering use of chest CT scans for diagnosis or management of COVID-19 patients should consider whether such imaging will change clinical management. The American College of Radiology (ACR) recommends that CT should not be used to screen for COVID-19, or as a first-line test to diagnose COVID-19, and that CT should be used sparingly and reserved for hospitalized, symptomatic patients with specific clinical indications for CT. Appropriate infection control procedures should be followed before scanning subsequent patients. For more information see, ACR Recommendations for the use of Chest Radiography and Computed Tomography (CT) for Suspected COVID-19 Infectionexternal iconexternal icon.

Whom should healthcare providers notify if they suspect a patient has COVID-19?

Healthcare Providers should immediately notify infection control personnel at their facility if they suspect COVID-19 in a patient. Providers should then consult with local or state health departments to determine whether patients meet criteria for a Persons Under Investigation (PUI), see Evaluating and Testing Persons for Coronavirus Disease 2019 (COVID-19).

Treatment and Management

Should post-exposure prophylaxis be used for people who may have been exposed to a person with COVID-19?

There is currently no FDA-approved post-exposure prophylaxis for people who may have been exposed to COVID-19. For information about registered clinical trials of investigational therapeutics for pre or post exposure prophylaxis of SARS-CoV-2 infection, visit ClinicalTrials.govexternal icon.

For more information on movement restrictions, monitoring for symptoms, and evaluation after possible exposure to COVID-19, see Interim US Guidance for Risk Assessment and Public Health Management of Persons with Potential Coronavirus Disease 2019 (COVID-19) Exposure in Travel-associated or Community Settings and Interim U.S Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 (COVID-19).

How are COVID-19 patients treated?

Not all patients with COVID-19 will require medical supportive care. Clinical management for hospitalized patients with COVID-19 is focused on supportive care for complications, including supplemental oxygen and advanced organ support for respiratory failure, septic shock, and multi-organ failure. Empiric testing and treatment for other viral or bacterial etiologies may be warranted.

Corticosteroids are *not* routinely recommended for treatment of viral pneumonia or ARDS, due to the potential for prolonging viral replication, as has been observed with MERS coronavirus and influenza. Corticosteroids should be avoided unless they are indicated for another reason (e.g., COPD exacerbation or refractory septic shock following the Surviving Sepsis Campaign Guidelines).

For information on investigational therapies, see Therapeutic Options for Patients with COVID-19.

Do patients with confirmed or suspected COVID-19 need to be admitted to the hospital?

Not all patients with COVID-19 require hospital admission. Patients whose clinical presentation warrants in-patient clinical management for supportive medical care should be admitted to the hospital under appropriate isolation precautions.

Some patients with initial mild clinical presentation may worsen in the second week of illness. The decision to monitor these patients in the inpatient or outpatient setting should be made on a case-by-case basis. This decision will depend not only on the clinical presentation, but also on the patient's ability to engage in self-monitoring, the feasibility of safe isolation at home, and the risk of transmission in the patient's home environment. For more information, see Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in a Healthcare Setting and Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for Coronavirus Disease 2019 (COVID-19).

When can patients with confirmed COVID-19 be discharged from the hospital?

Patients can be discharged from the healthcare facility whenever clinically indicated. Isolation should be maintained at home if the patient returns home before the time period recommended for discontinuation of hospital Transmission-Based Precautions.

Decisions to discontinue Transmission-Based Precautions or in-home isolation can be made on a case-by-case basis in consultation with clinicians, infection prevention and control specialists, and public health authorities based upon multiple factors, including disease severity, illness signs and symptoms, and results of laboratory testing for COVID-19 in respiratory specimens.

See Interim Considerations for Disposition of Hospitalized Patients with COVID-19. For non-hospitalized persons, see Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization for COVID-19, and Discontinuation of In-Home Isolation for Immunocompromised Persons.

Obstetrical Care

Does CDC recommend use of facemasks or respirators for healthcare personnel (HCP) caring for pregnant patients with known or suspected COVID-19 infection?

When available, respirators (or facemasks if a respirator is not available), eye protection, gloves, and gowns should be used for the care of patients with known or suspected COVID-19 infection, including women who are pregnant. For more information, please see Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings.

How should the use of N95 respirators be prioritized within obstetric healthcare settings during shortages?

During respirator shortages, care should be taken to ensure that N95 respirators are reserved for situations where respiratory protection is most important, such as performance of aerosol-generating procedures on patients with suspected or confirmed COVID-19 infection. In such shortage situations, facemasks might be used for other types of patient care.

Alternatives to N95 respirators might be considered where feasible. These include other classes of NIOSH-approved filtering facepiece respirators, half facepiece or full facepiece elastomeric respirators, and powered air-purifying respirators (PAPRs) where feasible. All of these alternatives will provide equivalent or higher protection than N95 respirators when properly worn. However, PAPRs and elastomeric respirators should **not** be used in surgical settings due to concerns that exhaled air may contaminate the sterile field. For more information please see: Strategies for Optimizing the Supply of N95 Respirators: Conventional Capacity Strategies.

When respirator supplies are restored, the facility can switch back to use of N95 respirators for all care of patients with known or suspected COVID-19 infection. For more information, please see Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings.

Is forceful exhalation during the second stage of labor considered an aerosol-generating procedure for respirator prioritization during shortages?

Based on limited data, forceful exhalation during the second stage of labor would not be expected to generate aerosols to the same extent as procedures more commonly considered to be aerosol generating (such as bronchoscopy, intubation, and open suctioning. Forceful exhalation during the second stage of labor is not considered an aerosol-generating procedure for respirator prioritization during shortages over procedures more likely to generate higher concentrations of infectious respiratory aerosols.

When respirator supplies are restored, as with all clinical care activities for patients with known or suspected COVID-19, HCP should use respirators (or facemasks if a respirator is not available), eye protection, gloves, and gowns during the second stage of labor, in addition to other personal protective equipment that may be typically indicated for labor and delivery. For more information please see: Healthcare Infection Prevention and Control FAQs

Is use of high-flow oxygen considered an aerosol-generating procedure for respirator prioritization during shortages?

Based on limited data, high-flow oxygen use is not considered an aerosol-generating procedure for respirator prioritization during shortages over procedures more likely to generate higher concentrations of infectious respiratory aerosols (such as bronchoscopy, intubation, and open suctioning). Patients with known or suspected COVID-19 should receive any interventions they would normally receive as standard of care. When respirator supplies are restored, as with all clinical care activities for patients with known or suspected COVID-19, respirators (or facemasks if a respirator is not available), eye protection, gloves, and gowns should be used by HCP for the care of pregnant patients with known or suspected COVID-19. For more information please see: Healthcare Infection Prevention and Control FAQs

Should intrapartum fever be considered as a possible sign of COVID-19 infection?

Clinicians should use their judgment to determine if a patient has signs and symptoms compatible with COVID-19 and whether the patient should be tested. Fever is the most commonly reported sign; most patients with confirmed COVID-19 have developed fever and/or symptoms of acute respiratory illness (cough, difficulty breathing).

Data regarding COVID-19 in pregnancy are limited; according to current information, presenting signs and symptoms are expected to be similar to those for non-pregnant patients, including the presence of fever.

Other considerations that may guide testing are epidemiologic factors such as the occurrence of local community transmission of COVID-19 infections. As part of evaluation, clinicians are strongly encouraged to test for other causes of respiratory illness and peripartum fever. For more information please see: Evaluating and Testing Persons for Coronavirus Disease 2019 (COVID-19)

What guidance is available for labor and delivery HCP with potential exposure in a healthcare setting to patients with COVID-19 infection?

HCP in labor and delivery healthcare settings should follow the same infection prevention and control recommendations and personal protective equipment recommendations as all other HCP. If HCP are exposed to patients with COVID-19 infection, guidance is available for HCP and healthcare facilities on steps to take. For

more information, please see: Interim U.S. Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease (COVID-19)

Drugs and Investigational Therapies

Are empiric antibiotics recommended for patients suspected of having COVID-19?

Several patients with COVID-19 have been reported to present with concurrent community-acquired bacterial pneumonia. Decisions to administer antibiotics to COVID-19 patients should be based on the likelihood of bacterial infection (community-acquired or hospital-acquired), illness severity, and antimicrobial stewardship issues. For more information, see Diagnosis and Treatment of Adults with Community-acquired Pneumonia: An Official Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of Americaexternal iconexternal icon.

What antiviral drugs are available to treat COVID-19?

There are currently no antiviral drugs approved by FDA to treat COVID-19. See Interim Clinical Guidance for Management of Patients with Confirmed Coronavirus Disease 2019 (COVID-19).

- For information on use of investigational drugs for treatment of patients with COVID-19, see Therapeutic Options for Patients with COVID-19.
- For information on specific clinical trials underway for treatment of patients with COVID-19 infection, visit clinicaltrials.govexternal icon.

Should angiotensin converting enzyme inhibitors (ACE-I) or Angiotensin Receptor Blockers (ARB) be stopped in patients with COVID-19?

CDC is currently not aware of scientific evidence establishing a link between ACE-I or ARBs and risk of contracting or severity of COVID-19. The American Heart Association, the Heart Failure Society of America, and the American College of Cardiology recommendexternal icon continuation of ACE-I or ARB medications for all patients already prescribed those medications for indications such as heart failure, hypertension, or ischemic heart disease. Cardiovascular disease patients who are diagnosed with COVID-19 should be fully evaluated by a healthcare professional before adding or removing any treatments, and any changes to their treatment should be based on the latest scientific evidence. Patients who rely on ACE-I or ARBs to treat chronic conditions and have additional questions should speak to their healthcare provider for individualized management.

Do nonsteroidal anti-inflammatory drugs (NSAIDs) worsen the course of disease for people with COVID-19?

CDC is currently not aware of scientific evidence establishing a link between NSAIDs (e.g., ibuprofen, naproxen) and worsening of COVID-19. FDAexternal iconexternal icon, the European Medicines Agencyexternal icon, the World Health Organization, and CDC are continuing to monitor the situation and will review new information on the effects of NSAIDs and COVID-19 disease as it becomes available. For those who wish to use treatment options other than NSAIDs, there are other over-the-counter and prescription medications approved for pain relief and fever reduction. Patients who rely on NSAIDs to treat chronic conditions and have additional questions should speak to their healthcare provider for individualized management. Patients should use NSAIDs, and all medications, according to the product labels and advice of their healthcare professional.

Waste Management

What do waste management companies need to know about wastewater and sewage coming from a healthcare facility or community setting with either a known COVID-19 patient or person under investigation (PUI)?

Waste generated in the care of PUIs or patients with confirmed COVID-19 does not present additional considerations for wastewater disinfection in the United States. Coronaviruses are susceptible to the same disinfection conditions in community and healthcare settings as other viruses, so current disinfection conditions in wastewater treatment facilities are expected to be sufficient. This includes conditions for practices such as oxidation with hypochlorite (i.e., chlorine bleach) and peracetic acid, as well as inactivation using UV irradiation.

Do wastewater and sewage workers need any additional protection when handling untreated waste from healthcare or community setting with either a known COVID-19 patient or PUI?

Wastewater workers should use standard practices including basic hygiene precautions and wear the recommended PPE as prescribed for their current work tasks when handling untreated waste. There is no evidence to suggest that employees of wastewater plants need any additional protections in relation to COVID-19.

Should medical waste or general waste from healthcare facilities treating PUIs and patients with confirmed COVID-19 be handled any differently or need any additional disinfection?

Medical waste (trash) coming from healthcare facilities treating COVID-2019 patients is no different than waste coming from facilities without COVID-19 patients. CDC's guidance states that management of laundry, food service utensils, and medical waste should be performed in accordance with routine procedures. There is no evidence to suggest that facility waste needs any additional disinfection.

More guidance about environmental infection control is available in section 7 of CDC's Interim Infection Prevention and Control Recommendations for Patients with Confirmed COVID-19 or Persons Under Investigation for COVID-19 in Healthcare Settings.