



Centers for Disease
Control and Prevention

REVIEWED

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Coronavirus Disease 2019 (COVID-19)

Clinical Questions about COVID-19: Questions and Answers

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COVID-19 Risk

Are there work restrictions recommended for HCP with underlying health condition COVID-19 patients? What about for pregnant HCP?

Adherence to recommended infection prevention and control practices is an important patients in healthcare settings. All HCP who care for confirmed or suspected COVID-19 | [standard and transmission based precautions](#).

To the extent feasible, healthcare facilities could consider prioritizing HCP who are not a severe illness from COVID-19 or who are not pregnant to care for confirmed or suspect

If staffing shortages make this challenging, facilities could consider restricting HCP at hi from COVID-19 or who are pregnant from being present for higher risk procedures (e.g [procedures](#)) on COVID-19 patients. Find more information for facilities on [mitigating HC](#)

HCP who are concerned about their individual risk for severe illness from COVID-19 due conditions while caring for COVID-19 patients can discuss their concerns with their super services.

People 65 years and older and people of all ages with serious [underlying health condition](#) conditions, chronic lung disease, and diabetes — seem to be at higher risk of developin COVID-19.

Information on COVID-19 in pregnancy is limited. Pregnant women are not currently co severe illness from COVID-19. However, pregnant women have had a higher risk of sev viruses from the same family as COVID-19 and other viral respiratory infections, such as information on [pregnancy](#) and risk for severe illness from COVID-19.

I am a HCP living with someone who is at higher risk of severe illness from COVID-19 should I take?

Take the same [precautions recommended for people at higher risk](#) of severe illness fro additional precautions for HCP. Some HCP may choose to implement extra measures w providing healthcare, such as removing any clothing worn during delivery of healthcare clothing, and immediately showering. However, these are optional personal practices b evidence on whether they are effective.

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, unpr patient with symptomatic, confirmed COVID-19 and those who live in or have recently b 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 clin limited data that are available for COVID-19 patients, and data from related coronavirus respiratory syndrome coronavirus (SARS-CoV) and MERS-CoV, people who may be at ris include older adults and persons who have certain [underlying chronic medical conditio](#) conditions include chronic lung disease, moderate to severe asthma, cardiac disease wi immunocompromising conditions. See also [Interim Clinical Guidance for Management of Coronavirus Disease 2019 \(COVID-19\)](#) and [Information for Healthcare Professionals: CC Conditions](#).

If my patient has one of the underlying medical conditions listed, what is my patient tell my patient?

- There is insufficient information on COVID-19 to determine risk for each underlying condition. Epidemiologists at CDC are analyzing data around the clock to help us more precisely determine the risk 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 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 conditions, such as better glycemic or blood pressure control.
- If possible, work with patients to manage their underlying condition to the best of their ability. Ensure that patients have sufficient medication and supplies. Encourage all patients, regardless of their condition, 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 department.
- Fear and anxiety about a disease can feel overwhelming, especially for those who are already experiencing social isolation, and for healthcare providers that are treating patients with COVID-19. [Learn more about how you can 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](#) practices when caring for patients with suspected or confirmed COVID-19. Adherence to recommended infection control practices is an important part of protecting all HCP in healthcare settings. Information on the risk of COVID-19 to pregnant HCP is very limited; facilities may want to consider limiting exposure of pregnant HCP to patients with suspected COVID-19, especially during higher risk procedures (e.g., aerosol-generating procedures) if there is a concern about staffing availability.

Transmission

When is someone infectious?

The onset and duration of viral shedding and the period of infectiousness for COVID-19 possible that SARS-CoV-2 RNA may be detectable in the upper or lower respiratory tract similar to infections with MERS-CoV and SARS-CoV. However, detection of viral RNA does not mean infectious virus is present. There are reports of asymptomatic infections (detection of virus without symptoms) and pre-symptomatic infections (detection of virus prior to development of symptoms) but their role in transmission is not yet known. Based on existing literature, the incubation period (time from exposure to development of symptoms) of SARS-CoV-2 and other coronaviruses (e.g. MERS-CoV) is 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 virus has been isolated from upper respiratory tract specimens and bronchoalveolar lavage fluid. SARS-CoV-2 has been detected in blood and stool specimens, and SARS-CoV-2 virus has been isolated in cell culture from patients, including a patient with pneumonia 15 days after symptom onset. The duration of detection in upper and lower respiratory tract specimens and in extrapulmonary specimens may be several weeks or longer. Duration of several weeks or longer has been observed for SARS-CoV infection. While viable, infectious SARS-CoV has been isolated from respiratory tract specimens, viable, infectious MERS-CoV has only been isolated from respiratory tract specimens. Whether other non-respiratory body fluids from an infected person including vomit, urine, and sweat contain viable, infectious SARS-CoV-2 is not yet known.

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 known. People who recover from MERS-CoV are unlikely to be re-infected shortly after they recover, but it is not yet known whether similar 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 state and local public health commercial and clinical laboratories across the country. The [Association of Public Health Laboratories](#) provides a list of states and territories with laboratories that are using COVID-19 viral testing. Clinicians should direct testing questions to their [state health department](#). Reference laboratories are also able to offer a larger volume of testing for SARS-CoV-2.
- CDC has [guidance](#) for who should be tested, but decisions about testing are at the discretion of health departments and/or individual clinicians.
- Healthcare providers should report positive results to their local/state health department. Health departments collect these data directly.
- See recommendations for prioritization of testing, and instructions for specimen collection in [Testing Persons for COVID-19](#).

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

Yes. There are commercially developed respiratory panels with multi-pathogen molecular testing for multiple respiratory pathogens, including SARS-CoV-2, influenza and other human coronaviruses that cause respiratory illness. The U.S. Food and Drug Administration (FDA) has a list of [viral tests with Emergency Use Authorization](#) (EUA) and of [tests being offered without, or prior to, EUA](#).

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

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 whether such imaging will change clinical management. The American College of Radiology CT should not be used to screen for COVID-19, or as a first-line test to diagnose COVID-19. CT should be used sparingly and reserved for hospitalized, symptomatic patients with specific clinical indications. 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 for Suspected COVID-19 Infection](#) [↗](#).

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 a patient has COVID-19. If a patient tests positive, providers should report that positive result to the infection control department.

Treatment and Management

Should post-exposure prophylaxis be used for people who may have been exposed to 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 for SARS-CoV-2 infection, visit [ClinicalTrials.gov](https://clinicaltrials.gov) [↗](#).

For more information on movement restrictions, monitoring for symptoms, and evaluation of COVID-19, see [Interim US Guidance for Risk Assessment and Public Health Management of Coronavirus Disease 2019 \(COVID-19\) Exposure in Travel-associated or Community Settings](#), [Interim US Guidance for Risk Assessment and Public Health Management of Healthcare Personnel in Healthcare Setting to Patients with Coronavirus Disease 2019 \(COVID-19\)](#).

The National Institutes of Health recently published guidelines on prophylaxis use, testing, and treatment of COVID-19 patients. For more information, please visit: [National Institutes of Health: Coronavirus Disease 2019 \(COVID-19\) Treatment Guidelines](#) [↗](#).

How are COVID-19 patients treated?

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

Corticosteroids are *not* routinely recommended for treatment of viral pneumonia or ARF prolonging viral replication, as has been observed with MERS coronavirus and influenza avoided unless they are indicated for another reason (e.g., COPD exacerbation or refractory to the [Surviving Sepsis Campaign Guidelines](#) ).

For information on investigational therapies, see [Therapeutic Options for Patients with](#)

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 requires clinical management for supportive medical care should be admitted to the hospital under appropriate precautions.

Some patients with initial mild clinical presentation may worsen in the second week of illness. Patients who will monitor these patients in the inpatient or outpatient setting should be made on a case-by-case basis. Decision-making will depend not only on the clinical presentation, but also on the patient's ability to engage in self-isolation, 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 Confirmed Coronavirus Disease 2019 \(COVID-19\) in a Healthcare Setting](#) and [Interim Guidance for the 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 [Transmission-Based Precautions](#).

Decisions to discontinue Transmission-Based Precautions or in-home isolation can be made in consultation with clinicians, infection prevention and control specialists, and public health officials. 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 more information, see [Interim Guidance for Implementing Home Care of People Not Requiring Hospitalization](#) 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 patients with known or suspected COVID-19 infection?

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

How should the use of N95 respirators be prioritized within obstetric healthcare set

During respirator shortages, care should be taken to ensure that N95 respirators are re respiratory protection is most important, such as performance of aerosol-generating pr suspected or confirmed COVID-19 infection. In such shortage situations, facemasks mig patient care.

Alternatives to N95 respirators might be considered where feasible. These include othe filtering facepiece respirators, half facepiece or full facepiece elastomeric respirators, a respirators (PAPRs) where feasible. All of these alternatives will provide equivalent or hi respirators when properly worn. However, PAPRs and elastomeric respirators should n due to concerns that exhaled air may contaminate the sterile field. For more informatio [Optimizing the Supply of N95 Respirators: Conventional Capacity Strategies](#).

When respirator supplies are restored, the facility can switch back to use of N95 respira with known or suspected COVID-19 infection. For more information, please see [Interim Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease Healthcare Settings](#).

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

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

When respirator supplies are restored, as with all clinical care activities for patients with COVID-19, HCP should use respirators (or facemasks if a respirator is not available), eye gowns during the second stage of labor, in addition to other personal protective equipr indicated for labor and delivery. For more information please see: [Healthcare Infection](#)

Is use of high-flow oxygen considered an aerosol-generating procedure for respiratory shortages?

Based on limited data, high-flow oxygen use is not considered an aerosol-generating procedure. During shortages, high-flow oxygen use should be prioritized over procedures more likely to generate higher concentrations of respiratory aerosols (such as bronchoscopy, intubation, and open suctioning). Patients with COVID-19 should receive any interventions they would normally receive as standard of care when supplies are restored, as with all clinical care activities for patients with known or suspected COVID-19. For more information please see [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](#) and whether the patient should be tested. Fever is the most commonly reported sign; not all patients with 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, outcomes for pregnant patients are expected to be similar to those for non-pregnant patients, including the presence of respiratory symptoms.

Other considerations that may guide testing are epidemiologic factors such as the occurrence of community transmission of COVID-19 infections. As part of evaluation, clinicians are strongly encouraged to consider the presence of respiratory illness and peripartum fever. For more information please see: [Evaluating COVID-19 Infection in Patients with Respiratory Illness and Peripartum Fever \(COVID-19\)](#)

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

HCP in labor and delivery healthcare settings should follow the same infection prevention and personal protective equipment recommendations as all other HCP. For more information, please see: [Interim U.S. Guidance for Risk Assessment and Public Health Measures for Health Care Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 \(COVID-19\)](#)

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 pneumonia. Decisions to administer antibiotics to COVID-19 patients should be based on whether there is a concurrent bacterial infection (community-acquired or hospital-acquired), illness severity, and antimicrobial information, see [Diagnosis and Treatment of Adults with Community-acquired Pneumonia: Clinical Practice Guideline of the American Thoracic Society and Infectious Diseases Society of America](#).

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 Practice Guideline for the 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 [Investigational Therapies for Patients with COVID-19](#).
- For information on specific clinical trials underway for treatment of patients with COVID-19, see clinicaltrials.gov [↗](#).

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

CDC is currently not aware of scientific evidence establishing a link between ACE-I or ARB use and severity of COVID-19. The American Heart Association, the Heart Failure Society of America, and the American College of Cardiology [recommend](#) [↗](#) continuation of ACE-I or ARB medications for all patients with chronic conditions for indications such as heart failure, hypertension, or ischemic heart disease. Patients who are diagnosed with COVID-19 should be fully evaluated by a healthcare provider before removing any treatments, and any changes to their treatment should be based on the clinical status of the patient. Patients who rely on ACE-I or ARBs to treat chronic conditions and have additional questions should contact their healthcare provider for individualized management.

The National Institutes of Health recently published guidelines on prophylaxis use, testing, and treatment for COVID-19 patients. For more information, please visit: [National Institutes of Health: Coronavirus Disease 2019 \(COVID-19\) Treatment Guidelines](#) [↗](#).

Do nonsteroidal anti-inflammatory drugs (NSAIDs) worsen the course of disease for

CDC is currently not aware of scientific evidence establishing a link between NSAIDs (e.g. worsening of COVID-19. [FDA](#), the [European Medicines Agency](#), the [World Health Organization](#) is continuing to monitor the situation and will review new information on the effects of NSAIDs as it becomes available. For those who wish to use treatment options other than NSAIDs, over-the-counter and prescription medications approved for pain relief and fever reduction. Patients with chronic conditions and have additional questions should speak to their healthcare provider for management. Patients should use NSAIDs, and all medications, according to the product labeling and consult their healthcare professional.

Patients with Asthma

If I have patients with asthma, do I need to make any changes to their daily asthma regimens to reduce their risk of getting sick with COVID-19?

People with moderate to severe asthma, particularly if not well controlled, [might be at higher risk](#) from COVID-19.

Based on what we currently know about COVID-19, the selection of therapeutic options for the recommended treatment of asthma has not been affected. [National asthma guidelines](#) recommend the continuation of inhaled corticosteroids is particularly important for patients already using them because there is no evidence of increased risk of COVID-19 morbidity with use of inhaled corticosteroids. There is an abundance of data showing reduced risk of asthma exacerbation with maintenance of asthma therapy.

Patients with asthma but without symptoms or a diagnosis of COVID-19 should continue their asthma treatments.

If my patient experiences an asthma exacerbation, should the exacerbation be treated to reduce risk of COVID-19?

Selection of therapeutic options through guideline-recommended treatment of asthma is affected by what we currently know about COVID-19.

Systemic corticosteroids should be used to treat an asthma exacerbation per [national and current standards of care](#), even if it is caused by COVID-19. Short-term use of systemic corticosteroids for asthma exacerbations should be continued. There is currently no evidence to suggest that use of corticosteroids to treat asthma exacerbations increases the risk of developing severe COVID-19. There is an abundance of data to support use of systemic steroids for moderate or severe asthma.

Patients with asthma but without symptoms or a diagnosis of COVID-19 should continue their treatments, as recommended by national professional organizations, including the American College of Allergy, Asthma & Immunology (AAAAI) and the American College of Allergy, Asthma & Immunology. Health care providers need to be present during nebulizer use among patients who have either symptoms of COVID-19, use [CDC's recommended precautions when performing aerosol-generating procedures](#).

Clinicians may be concerned that an asthma exacerbation is related to an underlying infection. Clinicians can access laboratory testing for COVID-19 through a network of state and local laboratories across the country. Lists of [states and territories with laboratories](#) that are using COVID-19 testing are available. For more information, see [Testing in U.S.](#) Clinicians should direct testing questions to their local health departments.

Are any changes recommended to the asthma treatment plan if my patient with asthma has COVID-19?

Patients can be referred to [CDC's recommendations for caring for themselves or someone with COVID-19](#).

If nebulizer use at home is necessary for patients with asthma who have symptoms or a diagnosis of COVID-19, use the nebulizer in a location that minimizes and preferably avoids exposure to any other people in the home and preferably a location where air is not recirculated into the home (like a porch, patio or outdoors). For more information, see [guidance from national professional organizations, including the American College of Allergy, Asthma & Immunology \(ACAAI\) and the Allergy & Asthma Network \(AAN\)](#). Limiting the number of people in the room when the nebulizer is used is also recommended by the [Asthma & Allergy Foundation of America](#). The nebulizer should be used and cleaned according to the manufacturer's instructions.

If nebulizer use in a healthcare setting is necessary for patients who have either symptoms or a diagnosis of COVID-19, use [CDC's recommended precautions when performing aerosol-generating procedures](#).

Waste Management

What do waste management companies need to know about wastewater and sewage treatment at 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 a unique risk for wastewater disinfection in the United States. Coronaviruses are susceptible to the same disinfection conditions as other viruses, so current disinfection conditions in community and healthcare settings are expected to be sufficient. This includes conditions for practices such as oxidation (e.g., chlorine bleach) and peracetic acid, as well as inactivation using UV irradiation.

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

Wastewater workers should use standard practices including [basic hygiene precautions](#) and [PPE](#) as prescribed for their current work tasks when handling untreated waste. There is no need for 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 persons with COVID-19 be handled any differently or need any additional disinfection?

Medical waste (trash) coming from healthcare facilities treating COVID-2019 patients is coming from facilities without COVID-19 patients. CDC's guidance states that management of sharps, and medical waste should be performed in accordance with routine procedures. These procedures suggest that facility waste needs any additional disinfection.

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

Additional Resources

- [Clinical Care Guidance](#)
- [Therapeutic Options for Patient with COVID-19](#)
- [Guidance for Pediatric Healthcare Providers](#)
- [Disposition of Hospitalized Patients with COVID-19](#)
- [Inpatient Obstetric Healthcare Guidance](#)
- [Information for Healthcare Providers: COVID-19 and Pregnant Women](#)
- [Ending Isolation for Immunocompromised Patients](#)
- [Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure to Patients with Coronavirus Disease \(COVID-19\)](#)
- [Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 \(COVID-19\) in Healthcare Settings](#)
- [Strategies for Optimizing the Supply of N95 Respirators: Conventional Capacity Strategies](#)
- [Evaluating and Testing Persons for Coronavirus Disease 2019 \(COVID-19\)](#)
- [Healthcare Infection Prevention and Control FAQs](#)
- [National Institutes of Health: Coronavirus Disease 2019 \(COVID-19\) Treatment Guide](#)

