

DSH MANAGEMENT OF COVID-19 PATIENTS AND PATIENTS UNDER INVESTIGATION (PUI)



California Department of
State Hospitals

Updated and Approved by DSH Executive Team on July 22, 2020

CDC Guidelines may change and can lead to the modification of this document.

PPE supplies are in significant shortage in the Nation and CDC and/or Gubernatorial recommendations for safety measures can change accordingly. Use the most protective measures whenever possible based on availability of resources and the latest guidelines of CDC, CDPH and the California Governor.

Data for human infection with other coronaviruses suggest that the incubation period may range from 2-14 days. Frequently reported signs and symptoms of patients admitted to hospitals include fever, cough, chills, fatigue, anorexia, new loss of taste and smell, myalgia, sputum production and shortness of breath. Also, onset and duration of viral shedding and period of infectiousness for COVID-19 are not yet known.

The most prominent signs and symptoms include:

- Fever or chills
- Cough, dry or productive
- Dyspnea or difficulty breathing
- Fatigue
- Myalgia/muscle aches or body aches
- Headaches
- New loss of taste or smell
- Sore throat
- Nasal congestion or runny nose
- Nausea, vomiting and diarrhea have been reported
- Anorexia

Geriatric patients, especially frail older adults with multiple chronic conditions, may be afebrile and may not have a cough, chest discomfort, or sputum production. Tachypnea, altered mental status or delirium, and unexplained tachycardia or a decrease in blood pressure maybe the presenting clinical manifestations. Informal reports from US physicians who have cared for older patients with COVID-19 indicate that the most common presentation of infection began with malaise, muscle pains, low-grade fever, and cough that progressed to respiratory difficulty in the second week of illness; fever was not prominent in several cases. Many geriatric patients have dementia, history of strokes, or other health issues that may mask manifestations of COVID-19 infection.

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DEFINITIONS:

Isolation: separates sick people with a contagious disease from people who are not sick.

Quarantine: separates and restricts the movement of people who were exposed to a contagious disease to see if they become sick.

Personal Protective Equipment (PPE): Refers to protective clothing, helmets, gloves, face shields, goggles, facemasks and/or respirators or other equipment designed to protect the wearer from injury or the spread of infection or illness, and chemical and biological hazards.

Donning and Doffing PPE: Donning is process for staff putting required PPE. Doffing is the process for staff removing PPE. The procedure for putting on and removing PPE, as well as the type of PPE used will vary based on the level of precautions required.

Standard Precautions: Standard Precautions are used for all patient care. They are based on risk assessment and common-sense practices. Standard Precautions include:

- Perform Hand Hygiene
- Use PPE whenever there is an expectation of possible exposure to infectious material (blood or body fluid)
- Follow respiratory hygiene/cough etiquette principles
- Ensure appropriate patient placement
- Properly handle and properly clean and disinfect patient care equipment and instruments/devices
- Cleans and disinfects the environment appropriately
- Handle textiles and laundry carefully
- Follow safe injection practices
- Ensure healthcare worker safety including proper handling of needles and other sharps

Transmission-Based Precautions: The second tier of basic infection control and are to be used in addition to Standard Precautions for patients who may be infected or colonized with certain infectious agents for which additional precautions are needed to prevent infection transmission.

Contact Precautions: Precautions for patients with known or suspected infections that represent an increased risk for contact transmission. Examples include: COVID-19, MRSA, VRE, diarrheal illnesses, open wounds, RSV.

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Droplet Precautions: Precautions for patients known or suspected to be infected with pathogens transmitted by respiratory droplets that are generated by a patient who is coughing, sneezing, or talking. Examples include pneumonia, COVID-19 influenza, whooping cough, bacterial meningitis.

Aerosol Generating Procedures: Procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to HCP. Examples include: Bag valve mask (BVM) ventilation, oropharyngeal suctioning, endotracheal intubation, nebulizer treatment, continuous positive airway pressure (CPAP), bi-phasic positive airway pressure (biPAP), resuscitation involving emergency intubation or cardiopulmonary resuscitation (CPR).

Airborne Precaution: Precautions to prevent the spread of an identified or other infectious organism transmitted by airborne droplet nuclei that remain suspended in the air and can be dispersed widely by air currents.

Aerosol is tiny particles or droplets suspended in air.

Aerosolized airborne transmission is person to person transmission of an infectious agent by an aerosol of small particles able to remain airborne for long periods of time, over long distances to cause prolonged airspace contamination, and can be inhaled into the trachea and lung. Examples include Measles, Tuberculosis, Varicella disease (Varicella zoster virus)- Chickenpox, disseminated zoster.

Aerosolized droplet transmission is person to person transmission of an infectious agent by large particles only able to remain airborne for short periods of time, short distances, do not cause prolonged airspace contamination, and are too large to be inhaled into the trachea and lung. Examples include COVID-19, Diphtheria, Novel Influenza A viruses, SARS-CoV, Meningococcal disease, Mumps, Rubella, Pertussis and Plague.

Respiratory Hygiene and Cough Etiquette: Respiratory hygiene and cough etiquette are terms used to describe infection prevention measures to decrease the transmission of respiratory illness (e.g., influenza and cold viruses). Like hand hygiene, respiratory hygiene is part of the standard precautions that should be taken to prevent the spread of disease.

- Elements of respiratory hygiene and cough etiquette include:
 - Covering your mouth and nose when coughing or sneezing.
 - Use of tissues to cover mouth and nose, and immediately throwing them away.
 - Washing hands or use of an alcohol-based hand sanitizer every time you touch your mouth or nose.

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HEALTH CARE PERSONNEL (HCP):

Should always practice Standard Precautions, Respiratory Hygiene, Cough Etiquette measures and thorough frequent hand hygiene. Additionally, when caring for COVID-19 patients and PUI, HCP should adopt Transmission-Based precautions including contact, droplet and eye protection precautions. Aerosol protection is also needed if the patient is undergoing aerosol-generating procedures (AGPs). HCP will adopt these precautions through using personal protective equipment (PPE) as instructed in this protocol.

COVID-19 PATIENTS AND PUI:

All patients are screened daily for COVID-19 disease. If a COVID-19 (+) patient requires medical interventions beyond supportive/palliative care, they shall be transported to a community hospital where a higher level of care can be provided. As soon as a patient shows any symptoms of upper respiratory infection, they should be instructed to immediately wear a mask to protect others from infection.

It might not be possible to distinguish patients who have COVID-19 from patients with other respiratory viruses. As such, patients with different respiratory pathogens will likely be housed on the same unit. **However, only patients with the same respiratory pathogen may be housed in the same room.** For example, a patient with COVID-19 should not be housed in the same room as a patient with an undiagnosed respiratory infection.

Whenever possible, HCP will be only assigned to a specific isolation unit or area during their shift to decrease the potential for COVID-19 transmission.

1. Asymptomatic patients with potential exposure to a patient, or staff, with documented/confirmed COVID-19 or PUI:

These patients are without fever, cough, respiratory complaints, fatigue, GI complaints, muscle pains or any other symptoms suggestive of COVID-19 infection. Infection Control Guidelines for quarantined units restrict patients from leaving the unit except for emergencies; non-urgent staff visits from outside units; and as staffing-needs allow, restrict the quarantined unit staff from floating/working on other units and restrict outside units' staff to work on the quarantined unit.

PPE FOR HCP: Must wear surgical mask, face shields. N-95 Respirator, face shield and gloves if performing direct patient care less than 6 feet from the patient.

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QUARANTINE: Given that COVID-19 incubation period can extend to 14 days, all patients in the unit will be quarantined for a minimum of 2 weeks. These patients are monitored daily and closely for all symptoms and signs that could suggest COVID-19 infection, as per the physician orders and nursing protocols that follow CDC guidelines. Meals need to be served on the unit and, if possible, in disposable food service items.

TESTING AND QUARANTINE RELEASE: Baseline test at DAY 1 and every 7 days thereafter (Day 7, 14, 21, etc.). If all patients continue to be asymptomatic and test negative on two consecutive rounds of testing, excluding DAY 1 testing, the unit can be released from quarantine.

2. Symptomatic Patients suspected to have (PUI), or do have confirmed, COVID-19 infection:

Clinical presentation among reported cases of COVID-19 varies in severity from asymptomatic infection to mild illness to severe or fatal illness. Some reports suggest the **potential for clinical deterioration** during the second week of illness². In one report, among patients with confirmed COVID-19 and pneumonia, just over half of patients developed dyspnea a median of 8 days after illness onset (range: 5–13 days)². Follow the clinical guidance by the World Health Organization (WHO) for patients with severe acute respiratory infection who are suspected of COVID-19 at [https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-\(ncov\)-infection-is-suspected](https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected).

PPE FOR HCP: Must wear surgical mask, face shields. N-95 Respirator, face shield and gloves if performing direct patient care less than 6 feet from the patient.

ISOLATION:

Each PUI **should** be isolated in a private single room since some patients will have a (-) COVID-19 test and it is not recommended to house them in the same isolation room with patients that will have a confirmed (+) test for COVID-19. Private single isolation rooms for PUI can be in the same unit.

DSH MANAGEMENT OF COVID-19 PATIENTS AND PATIENTS UNDER INVESTIGATION (PUI)



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Each confirmed COVID (+) patient, should also ideally be isolated in a private single room, **but if there are limited resources (physical space, HCP, etc.)**, confirmed COVID-19 (+) patients can be cohorted together in the same isolation room or area.

These patients are monitored daily and closely for all symptoms and signs that could suggest COVID-19 infection, as per the physician orders and nursing protocols that follow CDC guidelines. Meals need to be served on the unit and, if possible, in disposable food service items.

PPE FOR HCP: Must wear surgical mask, face shields. N-95 Respirator, face shield and gloves if performing direct patient care less than 6 feet from the patient.

RELEASE FROM ISOLATION:

Discontinuation of Transmission-Based Precautions for Patients with COVID-19

The decision to discontinue Transmission-Based Precautions for patients with confirmed COVID-19, should be made using a symptoms-based or time-base strategy. **A test-based strategy is not recommended (except in severely immunocompromised patients) because, in the majority of cases, it results in prolonged isolation of patients who continue to shed detectable SARS-CoV-2 RNA but are no longer infectious.**

Symptomatic patients with COVID-19 should remain in Transmission-Based Precautions until **either**:

- *Symptom-based strategy* (preferred CDC strategy)
 - At least 1 day (24 hours) have passed *since last* fever without the use of fever-reducing medications **and** symptoms (e.g., cough, shortness of breath) have improved **and**,
 - At least **14 days** (modified strategy) have passed *since symptoms first appeared. For severely immunocompromised patients 20 days since symptoms first appeared.*
- *Test-based strategy*
 - If this strategy is chosen, it is reserved for severely immunocompromised patients only.
 - Resolution of fever without the use of fever-reducing medications **and**,
 - Improvement in respiratory symptoms (e.g., cough, shortness of breath), **and**,

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- Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive respiratory specimens collected ≥ 24 hours apart (total of two negative specimens) [1]. See Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens for 2019 Novel Coronavirus (2019-nCoV). Of note, there have been reports of prolonged detection of RNA without direct correlation to viral culture.

Asymptomatic patients with laboratory-confirmed COVID-19 should remain in Transmission-Based Precautions until **either**:

- *Time-based strategy* (preferred CDC strategy)
 - **14 days** (modified strategy) have passed since the date of their first positive COVID-19 diagnostic test, assuming they have not subsequently developed symptoms since their positive test. Note, because symptoms cannot be used to gauge where these individuals are in the course of their illness, it is possible that the duration of viral shedding could be longer or shorter than 10 days after their first positive test.
 - For severely immunocompromised patients, 20 days since first positive test.
- *Test-based strategy*
 - If this strategy is chosen, it is reserved for severely immunocompromised patients only.
 - Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive respiratory specimens collected ≥ 24 hours apart (total of two negative specimens). Note, because of the absence of symptoms, it is not possible to gauge where these individuals are in the course of their illness. There have been reports of prolonged detection of RNA without direct correlation to viral culture.

Note that detecting viral RNA via PCR does not necessarily mean that infectious virus is present.

Consider consulting with local infectious disease experts when making decisions about discontinuing Transmission-Based Precautions for patients who might remain infectious longer than 10 days (e.g., severely immunocompromised).

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Discontinuation of empiric Transmission-Based Precautions for patients suspected of having COVID-19:

The decision to discontinue empiric Transmission-Based Precautions by excluding the diagnosis of COVID-19 for a suspected COVID-19 patient can be made based upon having negative results from at least one FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA.

- If a higher level of clinical suspicion for COVID-19 exists, consider maintaining Transmission-Based Precautions and performing a second test for SARS-CoV-2 RNA.
- If a patient suspected of having COVID-19 is never tested, the decision to discontinue Transmission-Based Precautions can be made based upon using the *symptom-based strategy* described above.

Ultimately, clinical judgement and suspicion of SARS-CoV-2 infection determine whether to continue or discontinue empiric Transmission-Based Precautions.

References:

DSH COVID-19 Nursing Protocol for Admission, and Isolation of Patients (Approved 04/03/20)

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html>

<https://www.cdc.gov/quarantine/quarantineisolation.html>

<https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html>.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/disposition-hospitalized-patients.html>

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-guidance-management-patients.html>

<https://www.uptodate.com/contents/coronavirus-disease-2019-covid-19#H4141359801>