



Coronavirus Disease 2019 (COVID-19)

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)

April 15, 2020

Summary of Recent Changes

Update: This Interim Guidance was updated and archived on April 12, 2020. Updates were made to align with revisions to the public health recommendations for community-related exposure to COVID-19, which changed the period of exposure risk from "onset of symptoms" to "48 hours before symptom onset."

Given the ongoing transmission of COVID-19 in communities across the United States and the role that asymptomatic and pre-symptomatic individuals with COVID-19 play in transmission, the feasibility and benefits of formal contact tracing for exposures in healthcare settings are likely limited and **this guidance is being archived. No further updates are planned.**

Healthcare facilities should consider foregoing contact tracing for exposures in a healthcare setting in favor of universal source control for healthcare personnel (HCP) and screening for fever and symptoms of COVID-19 before every shift. Additional infection prevention and control recommendations, including more details about universal source control in healthcare settings are available.

Background

Coronaviruses are a large family of viruses that are common in humans and in many different species of animals, including camels, cattle, cats, and bats. Rarely, animal coronaviruses can infect people and then spread between people such as with SARS-CoV, MERS-CoV, and now with SARS-CoV-2.

Published and early reports suggest spread from person-to-person most frequently happens during close exposure to a person infected with COVID-19. Person-to-person spread appears to occur similar to other respiratory viruses, mainly via respiratory droplets produced when an infected person speaks, coughs, or sneezes. These droplets can land in the mouths, noses, or eyes of people who are nearby or possibly be inhaled into the lungs. Although not likely to be the predominant mode of transmission, it is not clear the extent to which touching a surface contaminated with the virus and then touching the mouth, nose, or eyes contributes to transmission. Recent experience with outbreaks in nursing homes has reinforced that residents and HCP with COVID-19 frequently do not report typical symptoms such as fever or respiratory symptoms and some may not report any symptoms. Unrecognized asymptomatic and pre-symptomatic infections likely contribute to transmission in these and other healthcare settings.

Purpose

This interim guidance is intended to assist with assessment of risk, monitoring, and work restriction decisions for HCP with potential exposure to COVID-19. Separate guidance is available for travelers and exposures in U.S. communities. Because of their often extensive and close contact with vulnerable individuals in healthcare settings, a conservative approach to HCP monitoring and restriction from work was taken to quickly identify early symptoms and prevent transmission from potentially contagious HCP to patients, HCP, and visitors. The signs and symptoms* described in this guidance are broader than those described when assessing exposures for individuals not working in healthcare. Healthcare facilities should have a low threshold for evaluating symptoms and testing symptomatic HCP, particularly those who fall into the *high-* and *medium-risk* categories described in this guidance.

This guidance is based on currently available data about COVID-19. Recommendations regarding which HCP are restricted from work may not anticipate every potential scenario and will change if indicated by new information.

Healthcare facilities, in consultation with public health authorities, should use clinical judgement as well as the principles outlined in this guidance to assign risk and determine need for work restrictions. CDC remains available for further consultation by calling the Emergency Operations Center at 770-488-7100. This cautious approach will be refined and updated as more information becomes available and as response needs change in the United States.

Other Resources

Public Health Recommendations after Travel-Associated COVID-19 Exposure

Public Health Recommendations for Community-Related Exposure

Criteria for Return to Work for Healthcare Personnel with Confirmed or Suspected COVID-19 (Interim Guidance)

Strategies to Mitigate Healthcare Personnel Staffing Shortages

Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease (COVID-19) in a Healthcare Setting.

I. Definitions Used in this Guidance

Self-monitoring means HCP should monitor themselves for fever by taking their temperature twice a day and remain alert for symptoms of COVID-19 (e.g., cough, shortness of breath, sore throat, myalgias, malaise)*. Anyone on self-monitoring should be provided a plan for whom to contact if they develop fever or respiratory symptoms during the self-monitoring period to determine whether medical evaluation is needed.

Active monitoring means that the state or local public health authority assumes responsibility for establishing regular communication with potentially exposed people to assess for the presence of fever or symptoms of COVID-19 (e.g., cough, shortness of breath, sore throat, myalgias, malaise)*. For HCP with high- or medium-risk exposures, CDC recommends this communication occurs at least once each day. The mode of communication can be determined by the state or local public health authority and may include telephone calls or any electronic or internet-based means of communication.

For HCP, active monitoring can be delegated by the health department to the HCP's healthcare facility occupational health or infection control program, if both the health department and the facility are in agreement. Note, inter-jurisdictional coordination will be needed if HCP live in a different local health jurisdiction than where the healthcare facility is located.

Self-Monitoring with delegated supervision in a healthcare setting means HCP perform self-monitoring with oversight by their healthcare facility's occupational health or infection control program in coordination with the health department of jurisdiction, if both the health department and the facility are in agreement. On days HCP are scheduled to work, healthcare facilities could consider measuring temperature and assessing symptoms prior to starting work. Alternatively, a

facility may consider having HCP report temperature and absence of symptoms to occupational health prior to starting work. Modes of communication may include telephone calls or any electronic or internet-based means of communication.

Occupational health or infection control personnel should establish points of contact between the organization, the self-monitoring personnel, and the local or state health departments of authority in the location where self-monitoring personnel will be during the self-monitoring period. This communication should result in agreement on a plan for medical evaluation of personnel who develop fever or symptoms of COVID-19 (e.g., cough, shortness of breath, sore throat, myalgias, malaise)* during the self-monitoring period. The plan should include instructions for notifying occupational health and the local public health authority, and transportation arrangements to a designated hospital, if medically necessary, with advance notice if fever or symptoms of COVID-19 occur. The supervising organization should remain in contact with HCP through the self-monitoring period to manage self-monitoring activities and provide timely and appropriate follow-up if symptoms occur in a HCP. Note, inter-jurisdictional coordination will be needed if HCP live in a different local health jurisdiction than where the healthcare facility is located.

Close contact for healthcare exposures is defined as follows: a) being within approximately 6 feet (2 meters) of a person with COVID-19 for a prolonged period of time (such as caring for or visiting the patient; or sitting within 6 feet of the patient in a healthcare waiting area or room); or b) having unprotected direct contact with infectious secretions or excretions of the patient (e.g., being coughed on, touching used tissues with a bare hand).

Data are limited for definitions of close contact. Factors for consideration include the duration of exposure (e.g., longer exposure time likely increases exposure risk), clinical symptoms of the patient (e.g., coughing likely increases exposure risk) and whether the patient was wearing a cloth face covering or facemask (which helps block respiratory secretions from contaminating others and the environment), PPE used by personnel, and whether aerosol generating procedures were performed.

Data are insufficient to precisely define the duration of time that constitutes a prolonged exposure. However, until more is known about transmission risks, it is reasonable to consider an exposure greater than a few minutes as a prolonged exposure. Brief interactions are less likely to result in transmission; however, clinical symptoms of the patient and type of interaction (e.g., did the patient cough directly into the face of the HCP) remain important. Recommendations will be updated as more information becomes available.

Risk stratification can be made in consultation with public health authorities. Examples of brief interactions include: briefly entering the patient room without having direct contact with the patient or their secretions/excretions, brief conversation at a triage desk with a patient who was not wearing a cloth face covering or facemask. See Table 1 for more detailed information.

Healthcare Personnel: For the purposes of this document, HCP refers to all paid and unpaid persons serving in healthcare settings who have the potential for direct or indirect exposure to patients or infectious materials, including body substances; contaminated medical supplies, devices, and equipment; contaminated environmental surfaces; or contaminated air. For this document, HCP does not include clinical laboratory personnel.

II. Defining Exposure Risk Category

While body fluids other than respiratory secretions have not been clearly implicated in transmission of COVID-19, unprotected contact with other body fluids, including blood, stool, vomit, and urine, might put HCP at risk of COVID-19.

Table 1 describes possible scenarios that can be used to assist with risk assessment. These scenarios do not cover all potential exposure scenarios and should not replace an individual assessment of risk for the purpose of clinical decision making or individualized public health management. Any public health decisions that place restrictions on an individual's or group's movements or impose specific monitoring requirements should be based on an assessment of risk for the individual or group. Healthcare facilities, in consultation with public health authorities should use the concepts outlined in this guidance along with clinical judgement to assign risk and determine need for work restrictions.

For this guidance *high-risk* exposures refer to HCP who have had prolonged close contact with patients with COVID-19 (beginning 48 hours before onset of symptoms) who were not wearing a cloth face covering or facemask while HCP nose and mouth were exposed to material potentially infectious with the virus causing COVID-19. Being present in the room for procedures that generate aerosols or during which respiratory secretions are likely to be poorly controlled (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction) on patients with COVID-19 (beginning 48 hours before onset of symptoms) when the healthcare providers' eyes, nose, or mouth were not protected, is also considered *high-risk*.

Medium-risk exposures generally include HCP who had prolonged close contact with patients with COVID-19 (beginning 48 hours before onset of symptoms) who were wearing a cloth face covering or facemask while HCP nose and mouth were exposed to material potentially infectious with the virus causing COVID-19. Some *low-risk* exposures are considered *medium-risk* depending on the type of care activity performed. For example, HCP who were wearing a gown, gloves, eye protection and a facemask (instead of a respirator) during an aerosol generating procedure would be considered to have a medium-risk exposure. If an AGP had not been performed, they would have been considered *low-risk*. See Table 1 for additional examples.

Low-risk exposures generally refer to brief interactions with patients with COVID-19 (beginning 48 hours before onset of symptoms) or prolonged close contact with patients (beginning 48 hours before onset of symptoms) who were wearing a cloth face covering or facemask for source control while HCP were wearing a facemask or respirator. Use of eye protection in addition to a facemask or respirator would further lower the risk of exposure.

Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients infected with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures, HCP should still perform self-monitoring with delegated supervision.

HCP with no direct patient contact and no entry into active patient management areas who adhere to routine safety precautions do not have a risk of exposure to COVID-19 (i.e., they have *no identifiable risk*).

Currently, this guidance applies to HCP with potential exposure in a healthcare setting to patients with confirmed COVID-19. However, HCP exposures could involve a person under investigation (PUI) who is awaiting testing. Implementation of monitoring and work restrictions described in this guidance could be applied to HCP exposed to a PUI if test results for the PUI are not expected to return within 48 to 72 hours. A record of HCP exposed to a PUI should be maintained and HCP should be encouraged to perform self-monitoring while awaiting test results. If the results will be delayed more than 72 hours or the patient is positive for COVID-19, then the monitoring and work restrictions described in this document should be followed.

Table 1: Epidemiologic Risk Classification¹ for Asymptomatic Healthcare Personnel Following Exposure to Patients with Coronavirus Disease 2019 (COVID-19) or their Secretions/Excretions in a Healthcare Setting, and their Associated Monitoring and Work Restriction Recommendations

The highest risk exposure category that applies to each person should be used to guide monitoring and work restrictions.

Note: While respirators confer a higher level of protection than facemasks and are recommended when caring for patients with COVID-19, facemasks still confer some level of protection to HCP, which was factored into our assessment of risk.

Epidemiologic risk factors	Exposure category	Recommended Monitoring for COVID-19 (until 14 days after last potential exposure)	Work Restrictions for Asymptomatic HCP
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Epidemiologic risk factors	Exposure category	Recommended Monitoring for COVID-19 (<i>until 14 days after last potential exposure</i>)	Work Restrictions for Asymptomatic HCP
Prolonged close contact with a patient with COVID-19 (beginning 48 hours before symptom onset) who was wearing a cloth face covering or facemask (i.e., source control)			
HCP PPE: None	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing a facemask or respirator	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing eye protection	Low	Self with delegated supervision	None
HCP PPE: Not wearing gown or gloves ^a	Low	Self with delegated supervision	None
HCP PPE: Wearing all recommended PPE (except wearing a facemask instead of a respirator)	Low	Self with delegated supervision	None
Prolonged close contact with a patient with COVID-19 (beginning 48 hours before symptom onset) who was not wearing a cloth face covering or facemask (i.e., no source control)			
HCP PPE: None	High	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing a facemask or respirator	High	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing eye protection ^b	Medium	Active	Exclude from work for 14 days after last exposure
HCP PPE: Not wearing gown or gloves ^{a,b}	Low	Self with delegated supervision	None
HCP PPE: Wearing all recommended PPE (except wearing a facemask instead of a respirator) ^b	Low	Self with delegated supervision	None

HCP=healthcare personnel; PPE=personal protective equipment

^aThe risk category for these rows would be elevated by one level if HCP had extensive body contact with the patients (e.g., rolling the patient).

^bThe risk category for these rows would be elevated by one level if HCP performed or were present for a procedure likely to generate higher concentrations of respiratory secretions or aerosols (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction). For example, HCP who were wearing a gown, gloves, eye protection and a facemask (instead of a respirator) during an aerosol generating procedure would be considered to have a medium-risk exposure.

Additional Scenarios:

- Refer to the footnotes above for scenarios that would elevate the risk level for exposed HCP. For example, HCP who were wearing a gown, gloves, eye protection, and a facemask (instead of a respirator) during an aerosol generating procedure would be considered to have a medium-risk exposure.
- Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures, HCP should still perform self-monitoring with delegated supervision.
- HCP not using all recommended PPE who have only brief interactions with a patient regardless of whether patient was wearing a cloth face covering or facemask are considered low-risk. Examples of brief interactions include: brief conversation at a triage desk; briefly entering a patient room but not having direct contact with the patient or the patient's secretions/excretions; entering the patient room immediately after the patient was discharged.
- HCP who walk by a patient or who have no direct contact with the patient or their secretions/excretions and no entry into the patient room are considered to have no identifiable risk.

III. Recommendations for Monitoring Based on COVID-19 Exposure Risk

HCP in any of the risk exposure categories who develop signs or symptoms compatible with COVID-19 must contact their established point of contact (public health authorities or their facility's occupational health program) for medical evaluation prior to returning to work

1. *High- or Medium-risk* Exposure Category

HCP in the *high- or medium-risk* category should undergo active monitoring, including restriction from work in any healthcare setting until 14 days after their last exposure. If they develop any fever (measured temperature $\geq 100.0^{\circ}\text{F}^*$ or subjective fever) OR symptoms consistent with COVID-19 (e.g., cough, shortness of breath, sore throat, myalgias, malaise)* they should immediately self-isolate (separate themselves from others) and notify their local or state public health authority and healthcare facility promptly so that they can coordinate consultation and referral to a healthcare provider for further evaluation.

2. *Low-risk* Exposure Category

HCP in the *low-risk* category should perform self-monitoring with delegated supervision until 14 days after the last potential exposure. Asymptomatic HCP in this category are not restricted from work. They should check their temperature twice daily and remain alert for symptoms consistent with COVID-19 (e.g., cough, shortness of breath, sore throat, myalgias, malaise)*. They should ensure they are afebrile and asymptomatic before leaving home and reporting for work. If they do not have fever or symptoms consistent with COVID-19 they may report to work. If they develop fever (measured temperature $\geq 100.0^{\circ}\text{F}^*$ or subjective fever) OR symptoms consistent with COVID-19 they should immediately self-isolate (separate themselves from others) and notify their local or state public health authority or healthcare facility promptly so that they can coordinate consultation and referral to a healthcare provider for further evaluation.

On days HCP are scheduled to work, healthcare facilities could consider measuring temperature and assessing symptoms prior to starting work. Alternatively, facilities could consider having HCP report temperature and symptoms to occupational health prior to starting work. Modes of communication may include telephone calls or any electronic or internet-based means of communication.

3. HCP who Adhere to All Recommended Infection Prevention and Control Practices

Proper adherence to currently recommended infection control practices, including all recommended PPE, should protect HCP having prolonged close contact with patients infected with COVID-19. However, to account for any inconsistencies in use or adherence that could result in unrecognized exposures, HCP should still perform self-monitoring with delegated supervision as described under the low-risk exposure category.

4. *No Identifiable risk* Exposure Category

HCP in the *no identifiable risk* category do not require monitoring or restriction from work.

5. Community or travel-associated exposures

HCP with community- or travel-associated exposures to COVID-19 should inform their facility's occupational health program that they have had a community or travel-associated exposure. Decisions about restriction from work should be made in consultation with the occupational health program. HCP who develop signs or symptoms compatible with COVID-19 should contact their established point of contact (public health authorities or their facility's occupational health program) for medical evaluation prior to returning to work.

Additional Considerations and Recommendations:

While contact tracing and risk assessment, with appropriate implementation of HCP work restrictions, of potentially exposed HCP remains the recommended strategy for identifying and reducing the risk of transmission of COVID-19 to HCP, patients, and others, it is not practical or achievable in all situations. Community transmission of COVID-19 in the United States has been reported in multiple areas. This development means some recommended actions (e.g., contact tracing and risk assessment of all potentially exposed HCP) are impractical for implementation by healthcare facilities. In the setting of community transmission, all HCP are at some risk for exposure to COVID-19, whether in the workplace or in the community. Devoting resources to contact tracing and retrospective risk assessment could divert resources from other important infection prevention and control activities. Facilities should shift emphasis to more routine practices, which include asking HCP to report recognized exposures, regularly monitor themselves for fever and symptoms of COVID-19, use facemasks or cloth face coverings for source control, and not report to work when ill. Facilities should develop a plan for how they will screen for symptoms and evaluate ill HCP. This could include having HCP report absence of fever and symptoms prior to starting work each day.

CDC has released guidance to assist healthcare facilities with mitigating staffing shortages, which include considerations for allowing asymptomatic HCP who have had an exposure to a COVID-19 patient to continue to work after options to improve staffing have been exhausted and in consultation with their occupational health program. Refer to that guidance for additional recommendations if this is allowed.

* Fever is either measured temperature $\geq 100.0^{\circ}\text{F}$ or subjective fever. Note that fever may be intermittent or may not be present in some patients, such as those who are elderly, immunosuppressed, or taking certain medications (e.g., NSAIDs). Clinical judgement should be used to guide testing of patients in such situations. Respiratory symptoms consistent with COVID-19 are cough, shortness of breath, and sore throat. Medical evaluation may be recommended for lower temperatures ($<100.0^{\circ}\text{F}$) or other symptoms (e.g., muscle aches, nausea, vomiting, diarrhea, abdominal pain headache, runny nose, fatigue) based on assessment by occupational health or public health authorities. Additional information about clinical presentation of patients with COVID-19 is available.

Page last reviewed: April 15, 2020