

Interim Infection Prevention and Control Recommendations for Patients with Suspected or Confirmed Coronavirus Disease 2019 (COVID-19) in Healthcare Settings

Key Concepts in This Guidance

- **Limit how germs can enter the facility.** Cancel elective procedures, use telemedicine when possible, limit points of entry and manage visitors, screen patients for respiratory symptoms, encourage patient respiratory hygiene using alternatives to facemasks (e.g., tissues to cover cough).
- **Isolate symptomatic patients as soon as possible.** Set up separate, well-ventilated triage areas, place patients with suspected or confirmed COVID-19 in private rooms with door closed and private bathroom (as possible), prioritize AIIRs for patients undergoing aerosol-generating procedures.
- **Protect healthcare personnel.** Emphasize hand hygiene, install barriers to limit contact with patients at triage, cohort COVID-19 patients, limit the numbers of staff providing their care, prioritize respirators and AIIRs for aerosol-generating procedures, [implement PPE optimization strategies](#) to extend supplies.

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Healthcare Personnel (HCP)

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
- contaminated air

Background

This interim guidance has been updated based on currently available information about COVID-19 and the current situation in the United States, which includes reports of cases of community transmission, infections identified in healthcare personnel (HCP), and shortages of facemasks, N95 filtering facepiece respirators (FFRs) (commonly known as N95 respirators), and gowns. Here is what is currently known:

This guidance is applicable to all U.S. healthcare settings. This guidance is not intended for non-healthcare settings (e.g., schools) OR for persons outside of healthcare settings. For recommendations regarding clinical management, air or ground medical transport, or laboratory settings, refer to the main CDC [COVID-19 website](#).

Mode of transmission: Early reports suggest person-to-person transmission most commonly happens during close exposure to a person infected with COVID-19, primarily via respiratory droplets produced when the infected person coughs, sneezes, or talks. Droplets can land in the mouths, noses, or eyes of people who are nearby or possibly be inhaled into the lungs of those within close proximity. Recent studies indicate that people who are infected but do not have symptoms likely also play a role in the spread of COVID-19. The contribution of small respirable particles, sometimes called aerosols or droplet nuclei, to close proximity transmission is currently uncertain. However, airborne transmission from person-to-person over long distances is unlikely.

Shortage of personal protective equipment: Controlling exposures to occupational infections is a fundamental method of protecting HCP. Traditionally, a hierarchy of controls has been used as a means of determining how to implement feasible and effective control solutions. The hierarchy ranks

controls according to their reliability and effectiveness and includes such controls as engineering controls, administrative controls, and ends with personal protective equipment (PPE). PPE is the least effective control because it involves a high level of worker involvement and is highly dependent on proper fit and correct, consistent use.

Major distributors in the United States have reported shortages of PPE, specifically N95 respirators, facemasks, and gowns. Healthcare facilities are responsible for protecting their HCP from exposure to pathogens, including by providing appropriate PPE.

In times of shortages, alternatives to N95s should be considered, including other classes of FFRs, elastomeric half-mask and full facepiece air purifying respirators, and powered air purifying respirators (PAPRs) where feasible. Special care should be taken to ensure that respirators are reserved for situations where respiratory protection is most important, such as performance of aerosol-generating procedures on suspected or confirmed COVID-19 patients or provision of care to patients with other infections for which respiratory protection is strongly indicated (e.g., tuberculosis, measles, varicella).

The anticipated timeline for return to routine levels of PPE is not yet known. Information about [strategies to optimize the current supply of N95 respirators](#), including the use of devices that provide higher levels of respiratory protection (e.g., powered air purifying respirators [PAPRs]) when N95s are in limited supply and a [companion checklist](#) to help healthcare facilities prioritize the implementation of the strategies, is available.

Capacity across the healthcare continuum: Use of N95 or higher-level respirators are recommended for HCP who have been medically cleared, trained, and fit-tested, in the context of a facility's [respiratory protection programexternal icon](#). The majority of nursing homes and outpatient clinics, including hemodialysis facilities, do not have respiratory protection programs nor have they fit-tested HCP, hampering implementation of recommendations in the previous version of this guidance. This can lead to unnecessary transfer of patients with known or suspected COVID-19 to another facility (e.g., acute care hospital) for evaluation and care. In areas with community transmission, acute care facilities will be quickly overwhelmed by transfers of patients who have only mild illness and do not require hospitalization.

Many of the recommendations described in this guidance (e.g., triage procedures, source control) should already be part of an infection control program designed to prevent transmission of seasonal respiratory infections. As it will be challenging to distinguish COVID-19 from other respiratory infections, interventions will need to be applied broadly and not limited to patients with confirmed COVID-19.

This guidance is applicable to all U.S. healthcare settings. **This guidance is not intended for non-healthcare settings (e.g., schools) OR for persons outside of healthcare settings.** For recommendations regarding clinical management, air or ground medical transport, or laboratory settings, refer to the main CDC [COVID-19 website](#).

Definition of Healthcare Personnel (HCP) –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.

Recommendations

1. Minimize Chance for Exposures

Ensure facility policies and practices are in place to minimize exposures to respiratory pathogens including SARS-CoV-2, the virus that causes COVID-19. Measures should be implemented before patient arrival, upon arrival, throughout the duration of the patient's visit, and until the patient's room is cleaned and disinfected. It is particularly important to protect individuals at increased risk for adverse outcomes from COVID-19 (e.g. older individuals with comorbid conditions), including HCP who are in a recognized risk category.

- **Before Arrival**

- When scheduling appointments for routine medical care (e.g., annual physical, elective surgery), instruct patients to call ahead and discuss the need to reschedule their appointment if they develop symptoms of a respiratory infection (e.g., cough, sore throat, fever) on the day they are scheduled to be seen.
- When scheduling appointments for patients requesting evaluation for a respiratory infection, use nurse-directed triage protocols to

determine if an appointment is necessary or if the patient can be managed from home.

- If the patient must come in for an appointment, instruct them to call beforehand to inform triage personnel that they have symptoms of a respiratory infection (e.g., cough, sore throat, fever¹) and to take appropriate preventive actions (e.g., follow triage procedures, wear a facemask upon entry and throughout their visit or, if a facemask cannot be tolerated, use a tissue to contain respiratory secretions).
- If a patient is arriving via transport by [emergency medical services \(EMS\)](#), EMS personnel should contact the receiving emergency department (ED) or healthcare facility and follow previously agreed upon local or regional transport protocols. This will allow the healthcare facility to prepare for receipt of the patient.
- **Upon Arrival and During the Visit**
 - Consider limiting points of entry to the facility.
 - Take steps to ensure all persons with symptoms of COVID-19 or other respiratory infection (e.g., fever, cough) adhere to respiratory hygiene and cough etiquette (see appendix), hand hygiene, and triage procedures throughout the duration of the visit.
 - Post [visual alertspdf icon](#) (e.g., signs, posters) at the entrance and in strategic places (e.g., waiting areas, elevators, cafeterias) to provide patients and HCP with instructions (in appropriate languages) about hand hygiene, respiratory hygiene, and cough etiquette. Instructions should include how to use tissues to cover nose and mouth when coughing or sneezing, to dispose of tissues and contaminated items in waste receptacles, and how and when to perform hand hygiene.
 - Provide supplies for respiratory hygiene and cough etiquette, including alcohol-based hand rub (ABHR) with 60-95% alcohol, tissues, and no-touch receptacles for disposal, at healthcare facility entrances, waiting rooms, and patient check-ins.
 - Install physical barriers (e.g., glass or plastic windows) at reception areas to limit close contact between triage personnel and potentially infectious patients.
 - Consider establishing triage stations outside the facility to screen patients before they enter.

- Ensure rapid safe triage and isolation of patients with symptoms of suspected COVID-19 or other respiratory infection (e.g., fever, cough).
 - Prioritize triage of patients with respiratory symptoms.
 - Triage personnel should have a supply of facemasks and tissues for patients with symptoms of respiratory infection. These should be provided to patients with symptoms of respiratory infection at check-in. Source control (putting a facemask over the mouth and nose of a symptomatic patient) can help to prevent transmission to others.
 - Ensure that, at the time of patient check-in, all patients are asked about the presence of symptoms of a respiratory infection and history of travel to areas experiencing transmission of COVID-19 or contact with possible COVID-19 patients.
 - Isolate the patient in an examination room with the door closed. If an examination room is not readily available ensure the patient is not allowed to wait among other patients seeking care.
 - Identify a separate, well-ventilated space that allows waiting patients to be separated by 6 or more feet, with easy access to respiratory hygiene supplies.
 - In some settings, patients might opt to wait in a personal vehicle or outside the healthcare facility where they can be contacted by mobile phone when it is their turn to be evaluated.
- Incorporate questions about new onset of respiratory symptoms into daily assessments of all admitted patients. Monitor for and evaluate all new fevers and respiratory illnesses among patients. Place any patient with unexplained fever or respiratory symptoms on appropriate Transmission-Based Precautions and evaluate.

Additional considerations during periods of community transmission:

- - Explore alternatives to face-to-face triage and visits.
 - Learn more about how healthcare facilities can [Prepare for Community Transmission](#)
 - Designate an area at the facility (e.g., an ancillary building or temporary structure) or identify a location in the area to be a

- “respiratory virus evaluation center” where patients with fever or respiratory symptoms can seek evaluation and care.
- Cancel group healthcare activities (e.g., group therapy, recreational activities).
 - Postpone elective procedures, surgeries, and non-urgent outpatient visits.

2. Adhere to Standard and Transmission-Based Precautions

Standard Precautions assume that every person is potentially infected or colonized with a pathogen that could be transmitted in the healthcare setting. Elements of Standard Precautions that apply to patients with respiratory infections, including COVID-19, are summarized below. Attention should be paid to training and proper donning (putting on), doffing (taking off), and disposal of any PPE. This document does not emphasize all aspects of Standard Precautions (e.g., injection safety) that are required for all patient care; the full description is provided in the [Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#).

HCP (see Section 5 for measures for non-HCP visitors) who enter the room of a patient with known or suspected COVID-19 should adhere to Standard Precautions and use a respirator or facemask, gown, gloves, and eye protection. When available, respirators (instead of facemasks) are preferred; they should be prioritized for situations where respiratory protection is most important and the care of patients with pathogens requiring Airborne Precautions (e.g., tuberculosis, measles, varicella). Information about the recommended duration of Transmission-Based Precautions is available in the [Interim Guidance for Discontinuation of Transmission-Based Precautions and Disposition of Hospitalized Patients with COVID-19](#)

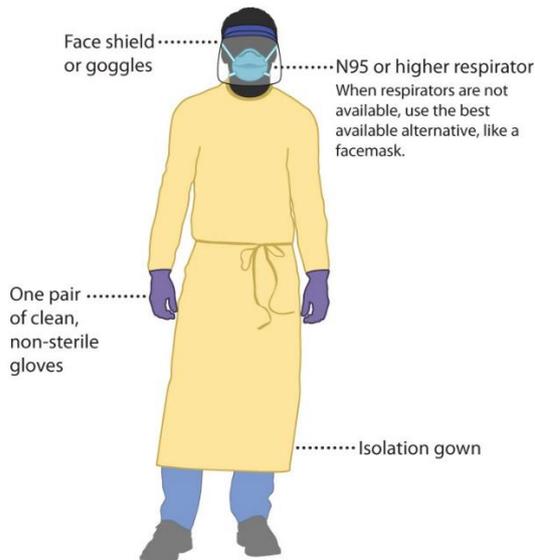
• **Hand Hygiene**

- HCP should perform hand hygiene before and after all patient contact, contact with potentially infectious material, and before putting on and after removing PPE, including gloves. Hand hygiene after removing PPE is particularly important to remove any pathogens that might have been transferred to bare hands during the removal process.
- HCP should perform hand hygiene by using ABHR with 60-95% alcohol or washing hands with soap and water for at least 20 seconds. If hands are visibly soiled, use soap and water before returning to ABHR.

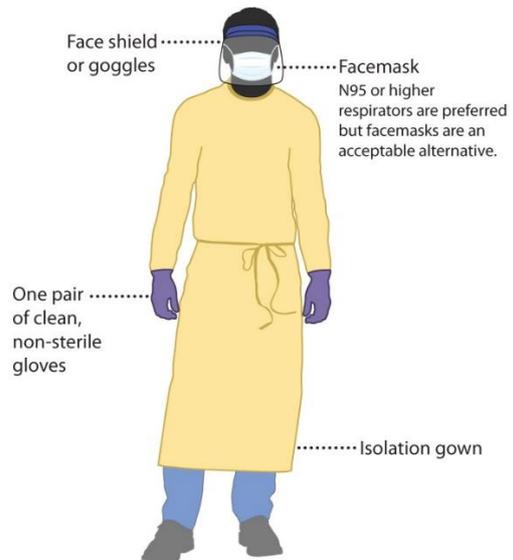
- Healthcare facilities should ensure that hand hygiene supplies are readily available to all personnel in every care location.

COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

Preferred PPE – Use N95 or Higher Respirator



Acceptable Alternative PPE – Use Facemask



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[cdc.gov/COVID19](https://www.cdc.gov/COVID19)

• Personal Protective Equipment

Employers should select appropriate PPE and provide it to HCP in accordance with [OSHA PPE standards \(29 CFR 1910 Subpart I\)](#)^{external icon}. HCP must receive training on and demonstrate an understanding of:

- when to use PPE
- what PPE is necessary
- how to properly don, use, and doff PPE in a manner to prevent self-contamination
- how to properly dispose of or disinfect and maintain PPE
- the limitations of PPE.

Any reusable PPE must be properly cleaned, decontaminated, and maintained after and between uses. Facilities should have policies and procedures describing a recommended sequence for safely donning and doffing PPE. The PPE recommended when caring for a patient with known or suspected COVID-19 includes:

- **Respirator or Facemask**

- Put on a respirator or facemask (if a respirator is not available) before entry into the patient room or care area.
- N95 respirators or respirators that offer a higher level of protection should be used instead of a facemask when performing or present for an aerosol-generating procedure (See Section 4). See appendix for respirator definition. Disposable respirators and facemasks should be removed and discarded after exiting the patient's room or care area and closing the door. Perform hand hygiene after discarding the respirator or facemask. For guidance on extended use of respirators, refer to [Strategies to Optimize the Current Supply of N95 Respirators](#)
 - If reusable respirators (e.g., powered air purifying respirators [PAPRs]) are used, they must be cleaned and disinfected according to manufacturer's reprocessing instructions prior to re-use.
- When the supply chain is restored, facilities with a respiratory protection program should return to use of respirators for patients with known or suspected COVID-19. Those that do not currently have a respiratory protection program, but care for patients with pathogens for which a respirator is recommended, should implement a respiratory protection program.

- **Eye Protection**

- Put on eye protection (i.e., goggles or a disposable face shield that covers the front and sides of the face) upon entry to the patient room or care area. Personal eyeglasses and contact lenses are NOT considered adequate eye protection.
- Remove eye protection before leaving the patient room or care area.
- Reusable eye protection (e.g., goggles) must be cleaned and disinfected according to manufacturer's reprocessing instructions prior to re-use. Disposable eye protection should be discarded after use.

- **Gloves**

- Put on clean, non-sterile gloves upon entry into the patient room or care area.
 - Change gloves if they become torn or heavily contaminated.
- Remove and discard gloves when leaving the patient room or care area, and immediately perform hand hygiene.

- **Gowns**

- Put on a clean isolation gown upon entry into the patient room or area. Change the gown if it becomes soiled. Remove and discard the gown in a dedicated container for waste or linen before leaving the patient room or care area. Disposable gowns should be discarded after use. Cloth gowns should be laundered after each use.
- If there are shortages of gowns, they should be prioritized for:
 - aerosol-generating procedures
 - care activities where splashes and sprays are anticipated
 - high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP. Examples include:
 - dressing
 - bathing/showering
 - transferring
 - providing hygiene
 - changing linens
 - changing briefs or assisting with toileting
 - device care or use
 - wound care

3. Patient Placement

- For patients with COVID-19 or other respiratory infections, evaluate need for hospitalization. If hospitalization is not medically necessary, [home care](#) is preferable if the individual's situation allows.
- If admitted, place a patient with known or suspected COVID-19 in a single-person room with the door closed. The patient should have a dedicated bathroom.
 - Airborne Infection Isolation Rooms (AIIRs) (See definition of AIIR in appendix) should be reserved for patients who will be undergoing aerosol-generating procedures (See Aerosol-Generating Procedures Section)
- As a measure to limit HCP exposure and conserve PPE, facilities could consider designating entire units within the facility, with dedicated HCP, to care for known or suspected COVID-19 patients. Dedicated means that HCP are assigned to care only for these patients during their shift.
 - Determine how staffing needs will be met as the number of patients with known or suspected COVID-19 increases and HCP become ill and are excluded from work.

- 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.
- During times of limited access to respirators or facemasks, facilities could consider having HCP remove only gloves and gowns (if used) and perform hand hygiene between patients with the same diagnosis (e.g., confirmed COVID-19) while continuing to wear the same eye protection and respirator or facemask (i.e., extended use). Risk of transmission from eye protection and facemasks during extended use is expected to be very low.
 - HCP must take care not to touch their eye protection and respirator or facemask .
 - Eye protection and the respirator or facemask should be removed, and hand hygiene performed if they become damaged or soiled and when leaving the unit.
- HCP should strictly follow basic infection control practices between patients (e.g., hand hygiene, cleaning and disinfecting shared equipment).
- Limit transport and movement of the patient outside of the room to medically essential purposes.
 - Consider providing portable x-ray equipment in patient cohort areas to reduce the need for patient transport.
- To the extent possible, patients with known or suspected COVID-19 should be housed in the same room for the duration of their stay in the facility (e.g., minimize room transfers).
- Patients should wear a facemask to contain secretions during transport. If patients cannot tolerate a facemask or one is not available, they should use tissues to cover their mouth and nose.
- Personnel entering the room should use PPE as described above.
- Whenever possible, perform procedures/tests in the patient's room.
- Once the patient has been discharged or transferred, HCP, including environmental services 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, the room should undergo appropriate cleaning and surface disinfection before it is returned to routine use (See Section 10).

4. Take Precautions When Performing Aerosol-Generating Procedures (AGPs)

- Some procedures performed on patient with known or suspected COVID-19 could generate infectious aerosols. In particular, procedures that are likely to induce coughing (e.g., sputum induction, open suctioning of airways) should be performed cautiously and avoided if possible.
- If performed, the following should occur:
 - HCP in the room should wear an N95 or higher-level respirator, eye protection, gloves, and a gown.
 - The number of HCP present during the procedure should be limited to only those essential for patient care and procedure support. Visitors should not be present for the procedure.
 - AGPs should ideally take place in an AIIR.
 - Clean and disinfect procedure room surfaces promptly as described in the section on environmental infection control below.

5. Collection of Diagnostic Respiratory Specimens

- When collecting diagnostic respiratory specimens (e.g., nasopharyngeal swab) from a possible COVID-19 patient, the following should occur:
 - HCP in the room should wear an N-95 or higher-level respirator (or facemask if a respirator is not available), eye protection, gloves, and a gown.
 - The number of HCP present during the procedure should be limited to only those essential for patient care and procedure support. Visitors should not be present for specimen collection.
 - Specimen collection should be performed in a normal examination room with the door closed.
 - Clean and disinfect procedure room surfaces promptly as described in the section on environmental infection control below.

6. Manage Visitor Access and Movement Within the Facility

- Establish procedures for monitoring, managing and training all visitors, which should include:
 - All visitors should perform frequent hand hygiene and follow respiratory hygiene and cough etiquette precautions while in the facility, especially common areas.

- Passively screen visitors for symptoms of acute respiratory illness before entering the healthcare facility
 - Post visual alerts (e.g., signs, posters) at the entrance and in strategic places (e.g., waiting areas, elevators, cafeterias) advising visitors not to enter the facility when ill.
- Informing visitors about appropriate PPE use according to current facility visitor policy
- Visitors to the most vulnerable patients (e.g., oncology and transplant wards) should be limited; visitors should be screened for symptoms prior to entry to the unit.
- Limit visitors to patients with known or suspected COVID-19. Encourage use of alternative mechanisms for patient and visitor interactions such as video-call applications on cell phones or tablets. If visitation must occur, visits should be scheduled and controlled to allow for the following:
 - Facilities should evaluate risk to the health of the visitor (e.g., visitor might have underlying illness putting them at higher risk for COVID-19) and ability to comply with precautions.
 - Facilities should provide instruction, before visitors enter patients' rooms, on hand hygiene, limiting surfaces touched, and use of PPE according to current facility policy while in the patient's room.
 - Visitors should not be present during AGPs or other specimen collection procedures.
 - Visitors should be instructed to only visit the patient room. They should not go to other locations in the facility.

Additional considerations during periods of community transmission:

- All visitors should be actively assessed for fever and respiratory symptoms upon entry to the facility. If fever or respiratory symptoms are present, visitor should not be allowed entry into the facility.
- Determine the threshold at which screening of persons entering the facility will be initiated and at what point screening will escalate from passive (e.g., signs at the entrance) to active (e.g., direct questioning) to restricting all visitors to the facility.
- If restriction of all visitors is implemented, facilities can consider exceptions based on end-of-life situations or when a visitor is essential for the patient's emotional well-being and care.
- Limit points of entry to the facility.

7. Implement Engineering Controls

- Design and install engineering controls to reduce or eliminate exposures by shielding HCP and other patients from infected individuals. Examples of engineering controls include:
 - physical barriers or partitions to guide patients through triage areas
 - curtains between patients in shared areas
 - air-handling systems (with appropriate directionality, filtration, exchange rate, etc.) that are installed and properly maintained

8. Monitor and Manage Ill and Exposed Healthcare Personnel

- Facilities and organizations providing healthcare should implement [sick leave policies](#) for HCP that are non-punitive, flexible, and consistent with public health guidance.
- Movement and monitoring decisions for HCP with exposure to COVID-19 should be made in consultation with public health authorities. Refer to the [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 \(COVID-19\)](#) for additional information.

9. Train and Educate Healthcare Personnel

- Provide HCP with job- or task-specific education and training on preventing transmission of infectious agents, including refresher training.
- Ensure that HCP are educated, trained, and have practiced the appropriate use of PPE prior to caring for a patient, including attention to correct use of PPE and prevention of contamination of clothing, skin, and environment during the process of removing such equipment. Print CDC's [factsheet 8.5×11pdf icon](#) and [poster 11×17pdf icon](#) for one PPE donning and doffing method.

10. Implement Environmental Infection Control

- Dedicated medical equipment should be used when caring for patients with known or suspected COVID-19.
 - All non-dedicated, non-disposable medical equipment used for patient care should be cleaned and disinfected according to manufacturer's instructions and facility policies.
- Ensure that environmental cleaning and disinfection procedures are followed consistently and correctly.

- Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for SARS-CoV-2 in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed.
 - Refer to [List Nexternal icon](#) on the EPA website for EPA-registered disinfectants that have qualified under EPA's emerging viral pathogens program for use against SARS-CoV-2.
- Management of laundry, food service utensils, and medical waste should also be performed in accordance with routine procedures.
- Additional information about recommended practices for terminal cleaning of rooms and PPE to be worn by environmental services personnel is available in the [Healthcare Infection Prevention and Control FAQs for COVID-19](#)

11. Establish Reporting within and between Healthcare Facilities and to Public Health Authorities

- Implement mechanisms and policies that promote situational awareness for facility staff including infection control, healthcare epidemiology, facility leadership, occupational health, clinical laboratory, and frontline staff about known or suspected COVID-19 patients and facility plans for response.
- Communicate and collaborate with public health authorities.
 - Facilities should designate specific persons within the healthcare facility who are responsible for communication with public health officials and dissemination of information to HCP.
- Communicate information about known or suspected COVID-19 patients to appropriate personnel before transferring them to other departments in the facility (e.g., radiology) and to other healthcare facilities.

12. Appendix: Additional Information about Airborne Infection Isolation Rooms, Respirators and Facemasks

Information about Airborne Infection Isolation Rooms (AIIRs):

- AIIRs are single-patient rooms at negative pressure relative to the surrounding areas, and with a minimum of 6 air changes per hour (12 air changes per hour are recommended for new construction or renovation).

- Air from these rooms should be exhausted directly to the outside or be filtered through a high-efficiency particulate air (HEPA) filter directly before recirculation.
- Room doors should be kept closed except when entering or leaving the room, and entry and exit should be minimized.
- Facilities should monitor and document the proper negative-pressure function of these rooms.

Information about Respirators:

- A respirator is a personal protective device that is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer's risk of inhaling hazardous airborne particles (including dust particles and infectious agents), gases, or vapors. Respirators are certified by the CDC/NIOSH, including those intended for use in healthcare.
- Respirator use must be in the context of a complete respiratory protection program in accordance with OSHA Respiratory Protection standard ([29 CFR 1910.134external icon](#)). HCP should be medically cleared and fit-tested if using respirators with tight-fitting facepieces (e.g., a NIOSH-approved N95 respirator) and trained in the proper use of respirators, safe removal and disposal, and medical contraindications to respirator use.
- [NIOSH information about respirators](#)
- [OSHA Respiratory Protection eTooexternal icon](#)
- [Strategies for Optimizing the Supply of N-95 Respirators](#)

Filtering Facepiece Respirators (FFR) including N95 Respirators

- A commonly used respirator in healthcare settings is a filtering facepiece respirator (commonly referred to as an N95). FFRs are disposable half facepiece respirators that filter out particles.
- To work properly, FFRs must be worn throughout the period of exposure and be specially fitted for each person who wears one. This is called "fit-testing" and is usually done in a workplace where respirators are used.
- [Three key factors for an N95 respirator to be effectivepdf icon](#)
- FFR users should also perform a user seal check to ensure proper fit each time an FFR is used.
- Learn more about how to perform a [user seal checkpdf icon](#)
- For more information on how to perform a user seal check: <https://www.cdc.gov/niosh/docs/2018-130/pdfs/2018-130.pdf?id=10.26616/NIOSH PUB2018130pdf icon>

[NIOSH-approved N95 respirators list.](#)

- PAPRs have a battery-powered blower that pulls air through attached filters, canisters, or cartridges. They provide protection against gases, vapors, or particles, when equipped with the appropriate cartridge, canister, or filter.
- Loose-fitting PAPRs do not require fit testing and can be used with facial hair.
- A list of NIOSH-approved PAPRs is located on the [NIOSH Certified Equipment List](#).

Information about Facemasks:

- If worn properly, a facemask helps block respiratory secretions produced by the wearer from contaminating other persons and surfaces (often called source control).
- Facemasks are cleared by the U.S. Food and Drug Administration (FDA) for use as medical devices. Facemasks should be used once and then thrown away in the trash.

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Important Links

- [Respirator Trusted-Source Information](#)
- [Respirator Fact Sheet](#)
- [CDC's Interim Guidance for Home Care not Requiring Hospitalization for COVID-19](#)
- [Strategies for Optimizing the Supply of PPE](#)

[Frequently Asked Questions: Healthcare Infection Prevention and Control](#)

Summary of Changes to the Guidance:

Below are changes as of March 10, 2020.

- Updated PPE recommendations for the care of patients with known or suspected COVID-19:
 - Based on local and regional situational analysis of PPE supplies, facemasks are an acceptable alternative when the supply chain of respirators cannot meet the demand. During this time, available respirators should be prioritized for procedures that are likely to

generate respiratory aerosols, which would pose the highest exposure risk to HCP.

- Facemasks protect the wearer from splashes and sprays.
- Respirators, which filter inspired air, offer respiratory protection.
- When the supply chain is restored, facilities with a respiratory protection program should return to use of respirators for patients with known or suspected COVID-19. Facilities that do not currently have a respiratory protection program, but care for patients infected with pathogens for which a respirator is recommended, should implement a respiratory protection program.
- Eye protection, gown, and gloves continue to be recommended.
 - If there are shortages of gowns, they should be prioritized for aerosol-generating procedures, care activities where splashes and sprays are anticipated, and high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of HCP.
- Included are considerations for designating entire units within the facility, with dedicated HCP, to care for known or suspected COVID-19 patients and options for extended use of respirators, facemasks, and eye protection on such units. Updated recommendations regarding need for an airborne infection isolation room (AIIR).
 - Patients with known or suspected COVID-19 should be cared for in a single-person room with the door closed. Airborne Infection Isolation Rooms (AIIRs) (See definition of AIIR in appendix) should be reserved for patients undergoing aerosol-generating procedures (See Aerosol-Generating Procedures Section)
- Updated information in the background is based on currently available information about COVID-19 and the current situation in the United States, which includes reports of cases of community transmission, infections identified in healthcare personnel (HCP), and shortages of facemasks, N95 filtering facepiece respirators (FFRs) (commonly known as N95 respirators), and gowns.
 - Increased emphasis on early identification and implementation of source control (i.e., putting a face mask on patients presenting with symptoms of respiratory infection).

Footnote

Fever may not be present in some patients, such as those who are very young, elderly, immunosuppressed, or taking certain medications. Clinical judgement should be used to guide testing of patients in such situations.

Source CDC guidelines