Infection Prevention and Control (IPC)
Overview for COVID-19 in Health Care Settings

Updated July 15, 2021

What’s New: Updates added to align with OSHA COVID-19 Emergency Temporary Standard (ETS) and incorporates new information from CDC.

Transmission
SARS-CoV-2 is transmitted when an infected person breathes out droplets and very small particles that contain the virus. These droplets and particles can be breathed in by other people in close proximity or land on their eyes, noses, or mouth. In some circumstances, they may contaminate surfaces they touch. People who are closer than 6 feet from the infected person are most likely to get infected.

The mechanisms for transmission of SARS-CoV-2 are:

- Breathing in air when close to an infected person who is exhaling small droplets and particles that contain the virus. Risk of transmission is greatest within three to six feet of an infected person where the concentration of these very fine droplets and particles is greatest.
- Having these small droplets and particles that contain virus land on the eyes, nose, or mouth, especially through splashes and sprays like a cough or sneeze. Risk of transmission is likewise greatest close to an infectious source where the concentration of these exhaled droplets and particles is greatest.
- Touching eyes, nose, or mouth with hands that have the virus on them after direct contact or indirect contact (meaning touching a surface that is contaminated with the virus). The risk for this mechanism of transmission is less likely compared to the other two above.

With increasing distance from the source, the role of inhalation protection likewise increases. Although infections through inhalation at distances greater than six feet from an infectious source are less likely than at closer distances, the phenomenon has occurred and has been repeatedly documented under certain preventable circumstances. These transmission events have involved the presence of an infectious person exhaling virus indoors for an extended time (more than 15 minutes and in some cases hours) leading to virus concentrations in the air space sufficient to transmit infections to people more than 6 feet away, and in some cases to people who have passed through that space soon after the infectious person left. Per published reports, factors that increase the risk of SARS-CoV-2 infection under these circumstances include:

- Enclosed spaces with inadequate ventilation or air handling within which the concentration of exhaled respiratory fluids, especially very fine droplets and aerosol particles, can build-up in the air space.
- Increased exhalation of respiratory fluids if the infectious person is engaged in physical exertion or raises their voice (e.g., exercising, shouting, singing).
- Prolonged exposure to these conditions, typically more than 15 minutes.

Existing interventions to prevent the spread of SARS-CoV-2 appear sufficient to address
transmission both through close contact and under the special circumstances favorable to potential airborne transmission. More details on use of these interventions, such as, telehealth, engineering controls, administrative controls, physical distancing, physical barriers, use of facemasks, hand hygiene, and surface cleaning and disinfection are provided below;

**Incubation period²**
The incubation period for COVID-19 ranges between 2-14 days, with a median time of 4-5 days from exposure to symptoms onset in the person exposed. One study reported that 97.5% of people with COVID-19 who have symptoms will do so within 11.5 days of SARS-CoV-2 infection.

**Asymptomatic and Presymptomatic Infection²**
Several studies have documented infection with SARS-CoV-2 in patients who never have symptoms (asymptomatic) and in patients not yet symptomatic (presymptomatic). Since people who are asymptomatic are not always tested, the prevalence of asymptomatic infection and detection of presymptomatic infection is not yet well understood. Current data, based on reverse transcription-polymerase chain reaction (RT-PCR) testing for SARS-CoV-2 and on serologic studies, suggest asymptomatic infections can be common and that the total number of infections is likely greater than the number of cases reported. Patients may have abnormalities on chest imaging before the onset of symptoms.

- **Asymptomatic and Presymptomatic Transmission**
  - Increasing numbers of epidemiologic studies have documented SARS-CoV-2 transmission during the presymptomatic incubation period. Studies using RT-PCR detection have reported low cycle thresholds, indicating larger quantities of viral RNA, among people with asymptomatic and presymptomatic SARS-CoV-2 infection. The proportion of SARS-CoV-2 transmission due to asymptomatic or presymptomatic infection compared with symptomatic infection is not entirely clear; however, recent studies do suggest that people who are not showing symptoms may transmit the virus.

**Symptoms**
People with COVID-19 have a wide range of symptoms reported - ranging from mild symptoms to severe illness. Symptoms may appear 2-14 days after exposure to the virus. People with these symptoms may have COVID-19.

<table>
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<tr>
<th>COVID-19 Symptoms</th>
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<tr>
<td>Fever or chills</td>
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<td>Cough</td>
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<td>Shortness of breath or Difficulty breathing</td>
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<td>Fatigue</td>
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<td>Muscle or body aches</td>
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<tr>
<td>Headache</td>
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<td>New loss of taste or smell</td>
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<td>Sore throat</td>
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<td>Congestion/Runny nose</td>
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<td>Nausea or vomiting</td>
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<td>Diarrhea</td>
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Infection Prevention & Control for COVID-19:
Reduce risk of exposure/transmission:

- Refer to CDC/NIOSH Hierarchy of Controls. The idea behind this hierarchy is that the control methods at the top of the graphic are potentially more effective and protective than those at the bottom. Following this hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced.

**Administrative & Work Practice Controls**

- When scheduling appointments,
  - *Encourage use of telehealth, where appropriate (this is an example of physically removing the exposure hazard). See Digital Visit Guidance for more detail regarding both Primary and Specialty Telehealth.*
  - ***Instruct patients and persons who accompany them:***
    - Face coverings are to be worn upon entry to the facility
    - To call ahead or inform colleagues in the facility upon their arrival if they have symptoms of acute respiratory infection (e.g., fever, cough, difficulty breathing) or the most recent potential symptoms of COVID-19 listed in this document
    - Provide the patient a face covering to wear upon entry to contain cough and move as soon as possible to a private room, or if available and AGPs are anticipated, an airborne infection isolation room (AIIR)**.
- If providing ground transportation to the ministry facility, e.g. Trinity Health Program of All-inclusive Care for the Elderly (TH PACE), and the patients has symptoms of acute respiratory infection, ask them to call ahead to alert the care team. Follow PACE transportation guidance.
- Educate patients, visitors, and HCP about the importance of performing hand hygiene immediately before and after any contact with their face mask or cloth face covering
Patient screening and management

- Limit and monitor points of entry to the ministry.
- Screen and triage all clients, patients, residents, delivery people and other visitors, and other non-employees entering the ministry for symptoms of COVID-19 and prior, recent close contact to someone with COVID-19. See also screening-at-facility-entrances.pdf
  - Ministries that have a thermal imaging device (e.g., SnapXT from certify.me) or a non-contact infrared thermometer (NCIT) should continue to use these for measuring body temperature of patients, visitors and others listed above.
  - Ministries that do not have thermal imaging or NCIT must ask patients and visitors and others listed above if they have symptoms of COVID-19, including subjective assessment of fever, and if they have had close contact with someone with COVID-19 over the prior 14 days. The process for this screening when temperature scanning is not available is determined by the ministry. It can be done electronically or using signage with questions for the person entering the ministry to answer.
- Implement other applicable patient management strategies in accordance with CDC’s “COVID–19 Infection Prevention and Control Recommendations”

Health screening of Colleagues Prior to Work

- All colleagues and clinicians must be screened before each workday and each shift for symptoms of COVID-19 and unprotected close contact to someone with suspected or confirmed SARS-CoV-2. Options for methods to accomplish this pre-shift health screening include:
  - Entirely remote, self-monitoring and reporting by colleagues before reporting to work using SnapXT questionnaire application (recommended).
  - In-person at point of entry into the ministry using thermal scanning device in addition to response to questions about symptoms and close contact with someone with COVID-19

Standard and Transmission-Based Precautions

- Assure policies, procedures, and work practices adhere to Standard and Transmission-Based Precautions in accordance with CDC’s “Guidelines for Isolation Precautions”.

Universal Source Control Measures

- Source control refers to use of well-fitting cloth masks, facemasks, or respirators to cover a person’s mouth and nose to prevent spread of respiratory secretions when they are breathing, talking, sneezing, or coughing. In addition to providing source control, these devices also offer varying levels of protection for the wearer against exposure to infectious droplets and particles produced by infected people.
  - Ensuring proper fit, meaning covering the nose and mouth, is important to optimize both the source control and protection offered. Because of the potential for asymptomatic and pre-symptomatic transmission, source control measures are required for everyone in a health care facility, even if they do not have symptoms of COVID-19.
  - Patients, visitors, vendors, etc. are to wear cloth face covering or facemasks. See also guidelines-for-mask-conservation-with-reusable-cloth-masks.pdf (trinity-health.org)
    - Vendors who assist with direct patient care are to follow requirements in PPE Guidebook
  - Colleagues are to wear facemasks, e.g. disposable procedure mask, for source
control when in any area of the ministry and use PPE indicated in the PPE Guidebook. A respirator also provides source control when worn by colleagues. If the respirator being worn has an exhalation

- Use respiratory hygiene and cough etiquette with notices at points of entry and products to facilitate their use, including facial tissues and alcohol-based hand-rub (ABHR)
- Encourage use of alternative mechanisms for patient and visitor interactions such as video-call applications on cell phones or tablets.

Isolate symptomatic patients as soon as possible:

- Promptly triage/assess persons under investigation (PUI) or those with confirmed COVID-19 and place in private rooms with the door closed and with private bathrooms (if available). For semi-occupancy rooms do not place non-PUI/COVID-19 with PUI/COVID-19 infected.
  - See bed management guidelines for directions on use of airborne infection isolation rooms (AIIRs) and other strategies
  - See System guide on when transmission-based isolation precautions can be discontinued for the patient; discontinuation-of-isolation-for-a-covid-19-patient.pdf

Physical distancing

- Use physical distancing to provide separation between people by at least 6 feet when indoors unless such physical distancing is not feasible for a specific activity (e.g., hands-on, direct care of patients). Distancing does not apply to momentary exposure while people are in movement (e.g., passing in hallways or aisles).
- Examples of how physical distancing can be implemented for patients include:
  - Limiting visitors to the facility to those essential for the patient’s physical or emotional well-being and care (e.g., care partner, parent).
  - Encourage use of alternative mechanisms for patient and visitor interactions such as video-call applications on cell phones or tablets.
  - Scheduling appointments to limit the number of patients in waiting rooms or creating a process so that patients can wait outside or in their vehicle while waiting for their appointment.
  - Arranging seating in waiting rooms so patients can sit at least 6 feet apart.
  - Modifying in-person group health care activities (e.g., group therapy, recreational activities) by implementing virtual methods (e.g., video format for group therapy) or scheduling smaller in-person group sessions while having patients sit at least 6 feet apart.
- For health care personnel (HCP), the potential for exposure to SARS-CoV-2 is not limited to direct patient care interactions. Transmission can also occur through unprotected exposures to asymptomatic or pre-symptomatic co-workers in breakrooms or co-workers or visitors in other common areas. Examples of how physical distancing can be implemented for HCP include:
  - Remind HCP that the potential for exposure to SARS-CoV-2 is not limited to direct patient care interactions.
  - Emphasizing the importance of source control and physical distancing in non-patient care areas.
  - Providing family meeting areas where all individuals (e.g., visitors, HCP) can remain at least 6 feet apart from each other.
  - Designating areas and staggered schedules for HCP to take breaks, eat, and drink that allow them to remain at least 6 feet apart from each other, especially when they
must be unmasked.

Physical barriers
- At each fixed work location outside of direct patient care areas (e.g., entryway/lobby, check-in desks, triage, hospital pharmacy windows, bill payment) where physical distancing is not feasible, install cleanable or disposable solid barriers, as feasible.
  - The barrier must be sized (e.g., height and width) and located to block face-to-face pathways between individuals based on where each person would normally stand or sit. The barrier may have a pass-through space at the bottom for objects, merchandise, financial transactions, processing paperwork, etc.
  - See also: Facilities guidelines, Clinical Engineering guidelines

Protect healthcare personnel (HCP):
- Perform hand hygiene and use Personal Protective Equipment (PPE) appropriately.
  - Hand hygiene products including alcohol-based hand rub that is at least 60% alcohol and soap, methods to dry hands and readily accessible hand washing facilities are provided throughout the ministry.
- Vaccination against COVID-19.
  - MercyOne and its ministries requires all colleagues and clinicians receive COVID-19 vaccination.
  - MercyOne follows CDC’s Advisory Committee on Immunization Practices (ACIP), vaccine manufacturer's instructions and applicable FDA requirements for administration of COVID-19 vaccines.
  - Ministries support COVID–19 vaccination for each colleague by providing reasonable time and paid leave (e.g., paid sick leave, administrative leave) to each for vaccination and any side effects experienced following vaccination.
  - Refer to Vaccine Guidebook for additional details: Vaccine Guidebook
    - Note: In well-defined areas where there is no reasonable expectation that any person with suspected or confirmed COVID–19 will be present, use of facemask, physical distancing and physical barriers are not required of colleagues who are fully vaccinated

Personal protective equipment (PPE)
- Universal Use of Personal Protective Equipment: Transmission from asymptomatic or pre-symptomatic patients with SARS-CoV-2 infection can occur in health care settings, particularly in areas with moderate to substantial community transmission.
  - HCP working in facilities located in areas with moderate to substantial community transmission are more likely to encounter asymptomatic or pre-symptomatic patients with SARS-CoV-2 infection. If SARS-CoV-2 infection is not suspected in a patient presenting for care (based on symptom and exposure history):
    - HCP are to follow Standard Precautions (and Transmission-Based Precautions if required based on the suspected diagnosis; for example, use an N95 respirator or equivalent or higher-level respirator if the patient is suspected to have tuberculosis).
    - Additionally, HCP are to use the following PPE on a universal basis as described below:
      - N95 respirators or equivalent or higher-level respirators should be used for:
        - All aerosol-generating procedures AND
All surgical procedures that might pose higher risk for transmission if the patient has COVID-19 (e.g., that generate potentially infectious aerosols or involving anatomic regions where viral loads might be higher, such as the nose and throat, oropharynx, respiratory tract)

- One of the following should be worn by HCP for source control while in the facility and for protection during patient care encounters:
  - An N95 respirator OR
  - A well-fitting facemask
  - Eye protection should be worn during patient care encounters to ensure the eyes are also protected from exposure to respiratory secretions.

PPE for Care of Patients with Suspected or Confirmed COVID-19:

- **Facemasks.** Colleagues and clinicians are to be provided facemasks. Ensure that colleagues and clinicians wear, facemasks [see definitions at bottom of this guide] and ensure a facemask is worn over the nose and mouth when indoors and when occupying a vehicle with other people for work purposes. Facemasks need to be changed at least once per day, whenever they are soiled or damaged, and more frequently as necessary (e.g., when worn as PPE for patient care).
  - Exceptions:
    1) When an employee is alone in a room;
    2) While an employee is eating and drinking at the workplace, provided each employee is at least 6 feet away from any other person, or separated from other people by a physical barrier;
    3) When employees are wearing respiratory protection in accordance with PPE Guidebook;
    4) When it is important to see a person's mouth (e.g., communicating with an individual who is deaf or hearing impaired) – see PPE Guidebook for alternatives for this situation;
    5) When employees cannot wear facemasks due to a medical necessity, medical condition, or disability as defined in the Americans with Disabilities Act or due to a religious belief;
    6) When the ministry can demonstrate that the use of a facemask presents a hazard to an employee of serious injury or death (e.g., arc flash, heat stress, interfering with the safe operation of equipment;
    7) In well-defined areas where fully vaccinated colleagues and clinicians work (e.g., shared office) in which there is no reasonable expectation that individuals with COVID–19, (e.g., PUI or confirmed COVID-19, will be present).

- **Face shield** – for eye protection
  - Ensure colleagues and clinicians cleaned these at least daily and discard if damaged.

- **Respirators** - e.g., N95 or elastomeric respirator or PAPR

- **Other PPE**
  - gown and gloves and other protective clothing as applicable for the work

Use of respirators when not required under mini Respiratory Protection Program (RPP).
• If a colleague desires to wear a respirator in place of a facemask, the ministry will provide a respirator for work and care activities where a respirator is not required. Refer to the ministry’s mini Respiratory Protection Program (RPP) for more details.
  ○ The colleague is permitted, under the mini RPP, to wear their own respirator instead of a facemask.

Respirators and other PPE based on Standard and Transmission-Based Precautions.
• The ministry provides protective clothing and PPE (e.g., respirators, gloves, gowns, goggles, face shields) to colleagues and clinicians in accordance with Standard and Transmission-Based Precautions in health care settings in accordance with CDC’s “Guidelines for Isolation Precautions.”

See the PPE Guidebook for additional details

Aerosol-generating procedures (AGPs) for a person with suspect/confirmed COVID-19
• When an AGP is performed on a person with suspected or confirmed COVID–19:
  1) Limit the number of HCP present during the procedure to only those essential for patient care and procedure support.
  2) Perform in an airborne infection isolation room (AIIR), if available.
  3) After the procedure is completed, HCP are to clean and disinfect high frequency touch surfaces, equipment, and other surfaces with possible contamination in the room or area where the procedure was performed.
• Observe and adhere to all guidelines for care of the COVID-19+ or PUI patient
• Limit the numbers of personnel providing care to PUIs or those with COVID-19 to those needed for essential, direct care
• Use dedicated or disposable noncritical patient-care equipment (e.g., stethoscope, blood pressure cuff)
• If equipment will be used for more than one patient, clean and disinfect equipment before use on another patient according to manufacturer’s instructions and ministry policy

Cleaning and disinfection.
• In patient care areas, resident rooms, and for medical devices and equipment, the ministry must follow standard practices for cleaning and disinfection of surfaces and equipment in accordance with CDC’s “COVID–19 Infection Prevention and Control Recommendations” and CDC’s “Guidelines for Environmental Infection Control,” pp. 86–103, 147–149. 3,7
• See disinfection-of-inanimate-surfaces-and-equipment.pdf for additional details.
• In all other areas:
  ○ Clean high-touch surfaces and equipment at least once a day, following manufacturers’ instructions for use on application of disinfectants and other cleaners
  ○ When the ministry is notified that a person who is COVID–19 positive has been in the workplace within the last 24 hours, clean and disinfect, in accordance with CDC’s “Cleaning and Disinfecting Guidance” any areas, materials, and equipment under the ministry’s control that have likely been contaminated by the person who is COVID–19 positive (e.g., rooms they occupied, items they touched).

Other Topics: Patient/Resident Linen, Food Services, and waste management
• Follow routine procedures for management of used linen/laundry, food service trays/utensils, regular and medical waste.
  ○ Disposable food trays are not needed – hot water and soap used in Food Services to clean used dishware, utensils, drinking glasses, etc., kills the virus that causes COVID-19.

Ventilation
• Ministries that own or control buildings or structures with an existing heating, ventilation, and air conditioning (HVAC) system(s) will adhere to the following System guide air-quality-guidelines.pdf
Refer to ministry policy/procedure identified in the SARS-CoV-2 PNRP
  • Employee notification to employer of COVID–19 illness or symptoms –
  • Employer notification to employees of COVID–19 exposure in the workplace.
  • Medical removal from the workplace and protection benefits

References
1. Scientific Brief: SARS-CoV-2 Transmission | CDC
2. Management of Patients with Confirmed 2019-nCoV | CDC
6. Transmission-Based Precautions | Basics | Infection Control | CDC” (original publication, 2007, current version on CDC;6/7/2016

Definitions
• Close contact: means being within 6 feet of any other person for a cumulative total of 15 minutes or more over a 24-hour period during that person’s potential period of transmission. The potential transmission period runs from 2 days before the person felt sick (or, for asymptomatic people, 2 days prior to test specimen collection) until the time the person is isolated.
• COVID–19 plan.[equivalent to MercyOne SARS-CoV-2 Preparedness, Notification, and Response Plan]; means a plan for each workplace to prevent and control COVID-19 and minimize risk of transmission of COVID-19 to colleagues, clinicians, patients, visitors and others in the ministry. In includes hazard assessment, identification of a COVID-19 Safety Coordinator, implementation and ongoing monitoring of the plan for its effectiveness
• Direct patient care: means hands-on, face-to-face contact with patients for the purpose of
diagnosis, treatment, and monitoring.

- **Disinfect/disinfection**: means using an EPA-registered, hospital-grade disinfectant on EPA’s “List N” in accordance with manufacturers’ instructions to kill germs on surfaces.
- **Facemask**: means a surgical, medical procedure, dental, or isolation mask that is FDA-cleared, authorized by an FDA EUA, or offered or distributed as described in an FDA enforcement policy. Facemasks may also be referred to as “medical procedure masks.” Facemasks must be worn for source control – cloth face coverings are not permitted for colleagues.
- **Face shield**: a device, typically made of clear plastic, that covers the wearer’s eyes, nose, and mouth to protect from splashes, sprays, and spatter of body fluids, wraps around the sides of the wearer’s face (i.e., temple-to-temple), and extends below the wearer’s chin.
- **Filtering facepiece respirator**: means a negative pressure particulate respirator with a non-replaceable filter as an integral part of the facepiece or with the entire facepiece composed of the nonreplaceable filtering medium. Examples include a N95 respirator or equivalent.
- **High-touch surfaces and equipment**: means any surface or piece of equipment that is repeatedly touched by more than one person (e.g., doorknobs, light switches, countertops, handles, desks, tables, phones, keyboards, tools, toilets, faucets, sinks, credit card terminals, touchscreen-enabled devices).
- **Respirator**: means a type of personal protective equipment (PPE) that is certified by NIOSH under 42 CFR part 84 or is authorized under an EUA by the FDA. Respirators protect against airborne hazards by removing specific air contaminants from the ambient (surrounding) air or by supplying breathable air from a safe source. Common types of respirators include filtering facepiece respirators, elastomeric respirators, and PAPRs.
- **Screen** means asking questions to determine whether a person is COVID–19 positive or has symptoms of COVID–19.