

Frequently Asked Questions Regarding COVID-19

Why does information from the CDC, WHO, and other health organizations change so frequently?

Science is typically a slow process where facts are learned initially by observation and eventually refined through experimentation. It is rare that science is required to move at the speed of a pandemic. As this pandemic has unfolded there have been new observations and new experiments that continue to refine our understanding of this disease. While this is the ideal of science, striving through trial and error to find the best understanding of a phenomena, it can be frustrating to those who are trying to adhere to the offered guidelines. The following is a document that attempts to address commonly asked questions with the best currently available knowledge. This may change with time and we hope to continually update this as needed. This version was created and is up to date as of 7/28/20.

What is COVID-19?

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the causative agent of coronavirus disease 2019 (COVID-19). It is spread primarily through respiratory droplets that become aerosolized via coughs, sneezes, and even conversation. Aerosol transmission seems to occur even in patients who are pre-symptomatic (i.e. subsequently develop disease but spread it before symptoms) or asymptomatic (i.e. infected never develop disease or have mild disease). To a lesser extent, infectious virus can be acquired through touching contaminated surfaces.

Coronavirus disease 2019 (COVID-19) is the disease caused by SARS-CoV-2. It is estimated that 40% or more of those infected with SARS-CoV-2 will be asymptomatic. Those with symptoms are said to have COVID-19. The most common symptoms of COVID-19 are fever, cough/shortness of breath, and loss of taste/smell. Beyond these common symptoms, patients can have a diverse array of disease manifestations, including nausea and vomiting, diarrhea, muscle aches, headache, and even mental status changes. Blood clots have also been described.

Severe COVID-19 is likely a manifestation of the immune system gone awry. Though there is not a clearly defined mechanism, the data surrounding dramatically elevated inflammatory markers and benefit of immune suppressing medications suggests an over stimulation of the immune system is likely at play. Unfortunately, we are not adept at determining which patients are most at risk. Though, as noted below, there are risk factors for severe disease, there are many cases of otherwise healthy young adults who suffer catastrophic consequences of infection.

How long does it take to get COVID-19?

The median incubation period is just over 5 days, which means most cases that are going to be symptomatic will have symptoms between 5 and 6 days. Of those who are going to be symptomatic, almost all cases will be symptomatic within 14 days. The serial interval between cases is typically 4-5 days. This means that if an exposure is diagnosed (such as a family member), exposed individuals who will get the virus will typically be diagnosed within 4-5 days of the exposure. This is shorter than the 5-6 days quoted above because most transmission occurs before diagnosis. For example, if a grandmother is diagnosed on Tuesday July 15, it is likely she transmitted it to contacts the day prior so that exposed family members are likely to become ill around July 19-20. This represents both pre-symptomatic/asymptomatic spread and also diagnostic bias (people start to isolate at the time of diagnosis).

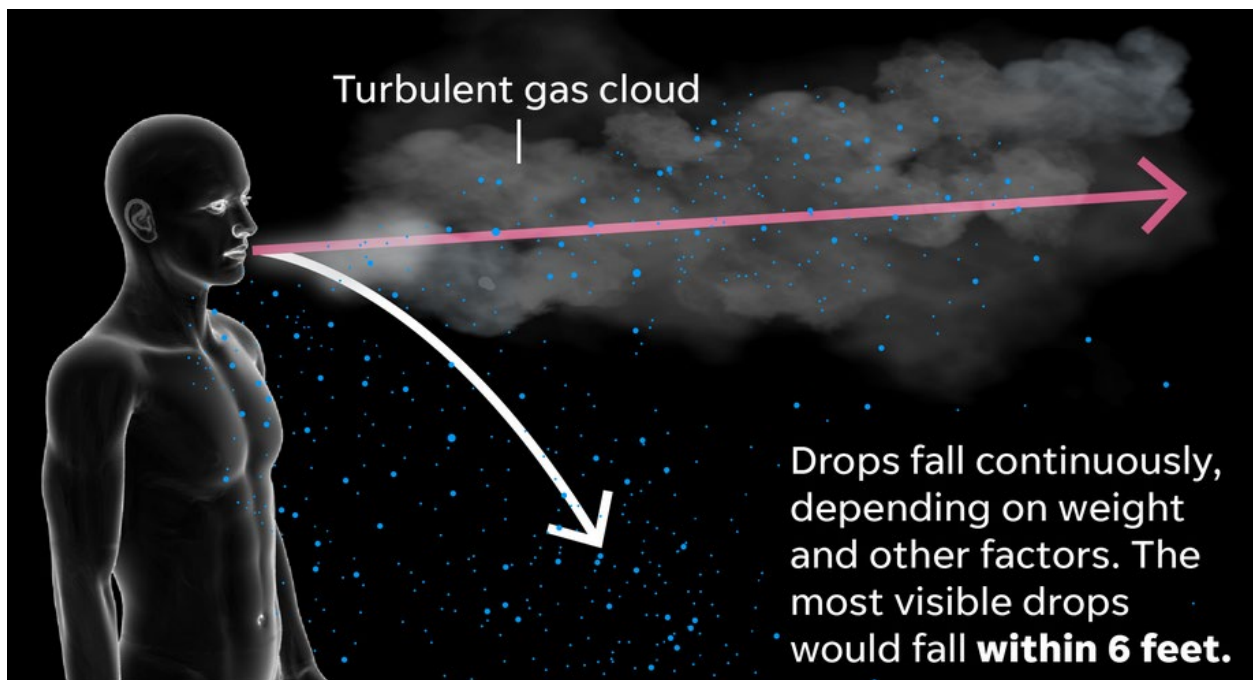
Who is at risk for severe COVID-19?

Advancing age (> 65) and chronic medical conditions place individuals at higher risk for symptomatic and severe COVID-19. The most frequently identified risk factors include hypertension, obesity, diabetes, cardiovascular (heart) disease, and chronic lung disease. Some studies have associated blood type with increased risk for severe disease (blood group A demonstrates increased risk; blood group O appears protective), though the reason and/or mechanism remains unclear.

COVID-19 also disproportionately affects Hispanic, Black and Native American people. This likely correlates with health disparities in the U.S. disproportionately affecting people of color (many studies suggest minority patients in the U.S. have less equitable access to appropriate primary care). Socioeconomic status, more so than racial or ethnic heritage, is correlated with increased risk for disease. This likely represents the fact that socioeconomically disadvantaged citizens are more likely to work “essential” jobs, take public transportation, and live in homes where social distancing between family members is difficult.

How is COVID-19 transmitted?

Like other respiratory viruses, COVID-19 is primarily contracted via inhalation. Most respiratory viruses spread in respiratory droplets, which are particles that are coughed or sneezed out. These particles, often too small to see, are large enough to fall with gravity. Most particles will fall within 3-6 feet of the person who expelled them. The smallest particles may travel further, on turbulent air or in aerosol clouds, for much further. However, the density of virus particles in these smaller droplets is less, so the risk of infection from smaller particles is decreased.



([Padilla R, Zarracina J. USA Today. July 17 2020](#))

It may be useful to think of risk of infection as a mechanism of inoculum size multiplied by duration of exposure. To illustrate this, we will make up an arbitrary example. Let's say that a person needs to inhale

1000 COVID particles to be infected. Then we will say that directly coughing in front of someone delivers 100 COVID particles per minute; talking to someone loudly/breathing hard/laughing less than 6 feet apart delivers 10 COVID particles per minute and talking to someone unmasked from more than 6 feet apart delivers 1 particle per minute. These are made up numbers but help to illustrate that the longer you spend with someone infected, the greater your risk is. Further, that risk is multiplied by the activity you are performing with them. Walking past a symptomatic person in a store for a minute is perhaps similar risk to working in the same office for hours with someone who is asymptomatic. This is an oversimplified example, but helps to illustrate a model for how to think about risk.

COVID-19 does not seem to be transmitted via fecal matter, urine, or breast milk. Transmission from mother-to-infant, i.e. in utero, has been documented in rare case reports from China, but has not been documented in larger US and European cohorts. The risk from sexual contact is unclear, though proximity and heavy breathing is likely a greater risk factor than bodily fluids.

SARS-CoV-2 particles do not survive on surfaces indefinitely. Within hours the viral particles break down to the point of no longer being infectious (i.e. able to cause COVID-19). Particles have been detected on surfaces for as long as 72 hours, however it is unclear if the amount of particles surviving are enough to cause infection (if touched and then exposed to a mucous membrane like the mouth/nose). Alcohol, hydrogen peroxide and other cleaning solutions are likely effective at destroying SARS-CoV-2 particles.

What are the best ways to prevent COVID?

There is mounting evidence that physical distancing reduces the rate of COVID-19. This is evident when comparing populations before and after lockdown initiatives. In countries with robust lock down measures, the rate of COVID-19 decreased dramatically. This is contrasted with countries that did not have robust lockdowns, which continue to see surging areas of virus. As stated above, the majority of viral particles shed in droplets will fall within 2 meters (approximately 6 feet) from the person that generated them. This is the rationale behind the 6-foot rule, the guidance to reduce large gatherings and the overall recommendation to increase physical distancing of individuals when able.

Cloth face coverings (AKA masks) are effective at decreasing the risk of transmission of COVID-19 in the community. In cases of interactions between infected individuals and uninfected individuals, masks have demonstrated substantial benefit. Masking works best when all parties mask. Those who are shedding virus will decrease the amount of virus particles leaving their mouth and those without infection will decrease the number of particles that may be inhaled. It should be noted that commonly used masks do not offer 100% protection. However, when masking is combined with other infection prevention measures the risk of transmission becomes exceedingly small.

Hand hygiene is also critically important. Washing hands for 20 seconds with soap and water throughout the day has been demonstrated to decrease risk of infection with coronaviruses. If unable to handwash, it is recommended that hand sanitizer with at least 60% alcohol content be used.

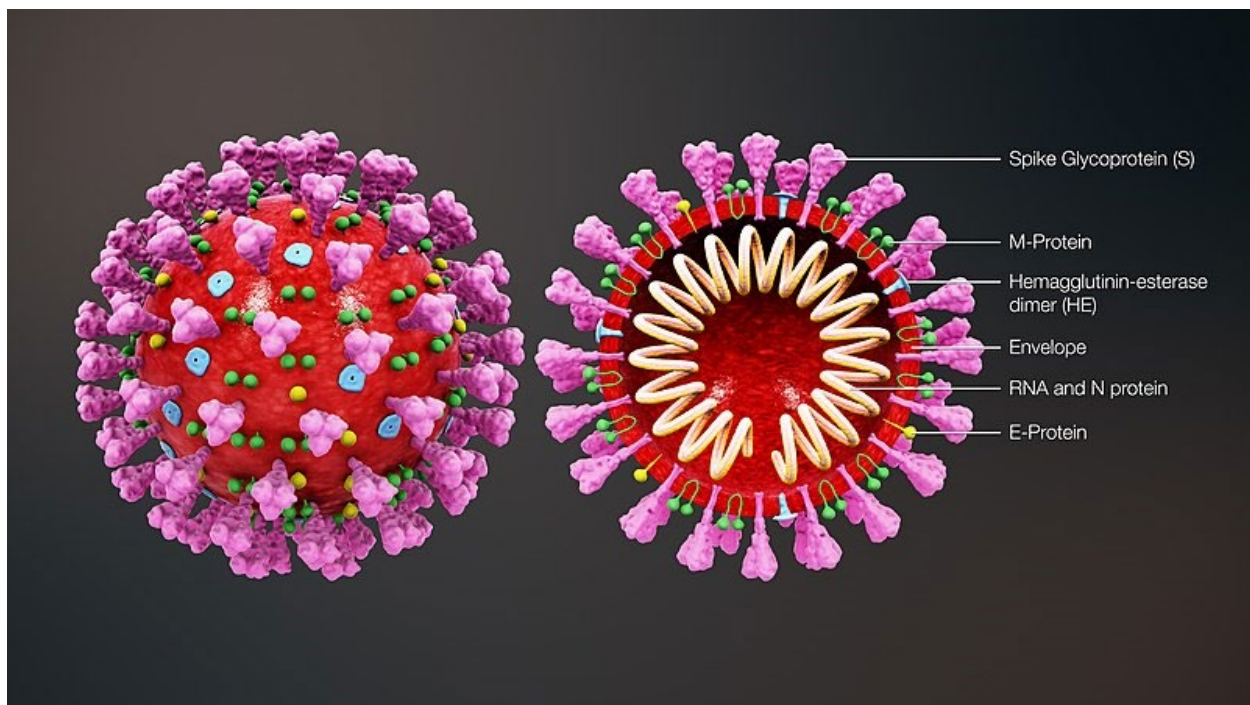


Image from CDC.gov

Finally, the cornerstone of infection prevention is appropriate sanitation, especially of common or shared areas. High touch areas (such as faucets, doorknobs, counters or tables) should be sanitized multiple times per day. Alcohol, hydrogen peroxide, and bleach are active against SARS-CoV-2. Further cleaning supplies active against the virus can be found below in the key resources section.

What types of COVID-19 testing exists and how do they differ?

There are currently two distinct ways to test for SARS-CoV-2. The “virus” test looks for fragments of the virus RNA. This test is the one commonly obtained via sampling deep in the nose, but can also occur from deep lung sample, sputum sample or throat samples (with varying degrees of accuracy). This test can detect RNA fragments but does not tell you if the virus is whole (i.e. able to cause infection). There is robust data that the “virus” test can remain positive for days and weeks after someone is no longer contagious, which is likely due to remaining non-active (i.e. dead) virus.



(https://commons.wikimedia.org/wiki/File:3D_medical_animation_coronavirus_structure.jpg)

The second test, which is becoming more prominently advertised, is the antibody test. Antibodies are proteins the body makes after an infection. These proteins are used to fight off future infections. This is the basis for vaccination. Many commercial tests are available to determine if you have antibodies to SARS-CoV-2. None of these tests have been widely validated and none of them are FDA approved. While they may be accurate in predicting a history of SARS-CoV-2 infection, they are not helpful in determining if a patient has COVID-19. Further, there are many Coronaviruses that circulate in the population (these cousins of SARS-CoV-2 are frequent causes of a “cold”) and it is unclear if antibodies to these viruses cross react to the currently available tests. At present the antibody test (often done on blood samples) is not recommended for use in clinical decision making (i.e. about who is infectious, who needs to isolate, and who has immunity).

Should COVID testing be required prior to accepting a client into shelter?

This is the most frequent question addressed to our team. When considering testing strategies for any organization, many factors need to be considered. First, testing for asymptomatic screening is very different than testing for symptoms and/or risk factors. When performing any test on an asymptomatic population with no or few risk factors, the underlying disease prevalence will be low and by definition your risk of false positive testing will be higher. While we see few false positive tests with the COVID-19 “virus” tests, we frequently see false negative tests. This often occurs when tests are obtained prior to symptom onset. In either scenario the utility of the test is decreased. Further, with current testing delays, the use of entry testing will likely bottle neck the intake process. Currently the CDC does not recommend testing all unsheltered people prior to shelter entry.

Currently we are suggesting a risk-based strategy. This would mean that clients are tested only if they are symptomatic with a syndrome that is compatible with COVID-19 and/or they have significant exposure. This strategy is further contingent on space in the shelter and the ability to isolate and/or quarantine new clients. This strategy takes into account risk of infection (on part of the client) and risk to others (based on facility setting). A risk-based strategy for entry and testing is being circulated and a finalized version will be added to this FAQ in the next version.

How long are patients with COVID-19 contagious?

Following diagnosis of COVID-19, patients may remain “positive” based on the “virus” test (i.e. PCR test) for weeks after infection. However, when sampling patients for replication competent virus (i.e. virus that can infect another person), the vast majority of patients will be negative within 7-8 days of symptom onset. In patients with mild to moderate symptoms, no infectious virus has been recovered more than 10 days after symptom onset. The exceptions to this rule are patients with severe disease, specifically those admitted to the ICU and on mechanical ventilation. Even in the sickest of patients, 95% will have no infectious virus at 15 days after symptom onset.

It is worth re-emphasizing a point made in the testing section – no current routinely used test can determine if someone is infectious. The “virus” test only detects viral RNA which could be from dead or dying virus. This is the reason that for most patients we are not recommending repeat testing to stop isolation. The current best evidence suggests that most people not requiring ICU level care will stop being contagious 10 days after symptom onset. Of note, these numbers are only applicable to symptomatic individuals. Asymptomatic people, due to lack of identifiable symptoms, have unclear duration of infectiveness.

How long should patients with COVID-19 remain isolated?

Current CDC recommendations are to isolate those diagnosed with COVID-19 disease for 10-14 days starting at the date of onset or at the time of the test (for asymptomatic individuals). The minimum duration of isolation should be 10 days, however consideration to longer duration of isolation can be given to those who have unresolving fever, worsening symptoms, immune compromising condition or those currently hospitalized for severe disease. For the vast majority of clients in shelters, 10 days of isolation is appropriate.

Can you get COVID-19 twice?

There is currently no well documented case of re-infection with COVID-19 in patients who have previously had the illness. The role of acquired immunity from past infection and the duration of that immunity are currently unclear. Many experts suspect that immunity can be developed following infection, which is the basis for many of the current vaccine trials.

Key Resources:

[Interim Guidance for Homeless Service Providers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\)](#)

[COVID-19 Infection Control Inventory and Planning \(ICIP\) Tool for Homeless Service Providers](#)

[Interim Considerations for Health Departments for SARS-CoV-2 Testing in Homeless Shelters and Encampments](#)

[CDC Guidance on Duration of Isolation and Precautions for Adults with COVID-19](#)

[Cleaning supplies active against COVID-19](#)

[Cleaning and Disinfection for Households with a COVID-19 Patient](#)

[National Health Care for the Homeless Council COVID-19 Resources](#)