

FAQs for COVID-19 Isolation Precautions and Duration of Infectivity August 14, 2020 (Replaces FAQs posted on June 22, 2020)

This FAQ guidance describes what is currently known about the duration and pattern of infectivity of the SARS-CoV-2 virus that causes COVID-19 disease.

DURATION OF INFECTIVITY AND SARS-CoV-2 PCR POSITIVITY

1. What does the PCR test for SARS-CoV-2 measure?

The PCR test detects viral RNA, but it is not able to distinguish infectious virus (i.e., “live” viable virus that is capable of being transmitted person-to-person) from non-infectious (“dead” or nonviable) viral particles.

2. How long after initial infection does the SARS-CoV-2 PCR test remain positive?

After initial infection, the SARS-CoV-2 PCR can remain positive from days to many weeks (as long as 11 weeks or more).^{1,2}

3. If a person’s SARS-CoV-2 PCR test is still positive weeks later, does that mean s/he is still infectious and can transmit virus to others?

Based on currently available data, people with COVID-19 are unlikely to be infectious weeks after symptom onset, despite persistently positive PCRs. Although SARS-CoV-2 RNA may be detected by PCR-based testing of respiratory tract samples for many weeks after initial infection, in multiple studies, persistently positive PCR results have not correlated with the ability to culture infectious virus from respiratory specimens, suggesting that persistently positive PCRs do not indicate ongoing infectivity.^{3,4}

4. How long do people with COVID-19 remain infectious after developing symptoms?

For patients with mild/moderate COVID-19 (i.e., SpO₂ ≥94%), live/viable virus has not been cultured from the respiratory tract of patients ten days after symptom onset, even in the setting of persistently positive PCRs.^{3,4} For patients with severe/critical COVID-19 (i.e., requiring oxygen) or for severely immunocompromised patients, live/viable virus has rarely been recovered 10-20 days after symptom onset, but not beyond 3 weeks.⁵

Based on these data, the Centers for Disease Control and Prevention no longer recommends a Test-Based Strategy to discontinue transmission-based precautions, with the possible exception of severely immunocompromised patients (see #7 below for more information).^{6,7}

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5. When are people with COVID-19 most infectious?

Data show that people with COVID-19 are most likely to transmit the virus to others in the first few days after symptom onset. Viral burden of SARS-CoV-2 is highest around the time of symptom onset and declines significantly after five days of symptoms.^{3,4,8,9} Moreover, studies of contact tracing for patients with COVID-19 suggest that most transmission occurs either before symptom onset or in the first five days of symptom onset, when the viral burden is highest.¹⁰

6. Can asymptomatic individuals (people without symptoms of COVID-19, but with a positive SARS-CoV-2 PCR test) transmit the virus to others?

Asymptomatic or pre-symptomatic people who are PCR-positive can sometimes transmit SARS-CoV-2 to others, although less frequently than those with symptoms.¹¹ This is why it is important to routinely use precautions, including social distancing and universal masking.

DISCONTINUING TRANSMISSION-BASED PRECAUTIONS FOR COVID-19

7. What is the difference between a Test-Based Strategy and a Symptom-Based Strategy for discontinuing transmission-based precautions?

A Test-Based Strategy requires two (2) negative PCR tests and resolution of symptoms before discontinuing transmission-based precautions. A Symptom-Based Strategy allows for discontinuation of transmission-based precautions after symptom resolution and specific time intervals based on current data for the duration of infectivity (see Questions 8 and 9). CDC no longer recommends a Test-Based Strategy, with the possible exception of severely immunocompromised patients, because we know that live/ viable virus is not recovered more than 10 days after symptom onset from non-severely immunocompromised patients. Thus, a positive PCR test obtained with a Test-Based Strategy 10 days after symptom onset may unnecessarily prolong the duration of isolation and lead to overuse of testing resources and personal protective equipment (PPE). It also subjects patients to repeated nasopharyngeal swabs.

8. According to NYP policy, what is required for a symptomatic patient with COVID-19 to be removed from transmission-based (isolation) precautions?

For both hospitalized and ambulatory patients who are immunocompetent, a Symptom-Based Strategy is now recommended instead of a Test-Based Strategy. For symptomatic immunocompetent patients who have mild/moderate

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illness (defined as SpO₂ ≥94%) the following criteria must be met to remove transmission-based precautions:

- At least **10 days** have passed since the date of the first positive COVID-19 diagnostic test AND
- At least **24 hours without fever** without use of antipyretics, AND
- Marked improvement in symptoms (e.g., cough, shortness of breath)

For symptomatic immunocompetent patients who have **severe/critical illness** (defined as SpO₂ <94%) the following criteria must be met:

- At least **20 days** have passed since the date of the first positive COVID-19 diagnostic test, AND
- At least **24 hours without fever** without use of antipyretics, AND
- Marked improvement in symptoms (e.g., cough, shortness of breath)

No additional testing is needed to discontinue precautions for immunocompetent, symptomatic patients.

See hospital isolation guidelines for more details:

https://infonyet.nyp.org/EPI/Covid19Documents/Discontinuing_Home_Ambulatory_Isolation_COVID-19.pdf

9. According to NYP policy, what is required for an asymptomatic immunocompetent patient with a positive SARS-CoV-2 PCR test to be removed from transmission-based (isolation) precautions?

Immunocompetent patients who were asymptomatic at the time of SARS-CoV-2 testing can be cleared from isolation precautions when:

- At least **10 days** have passed since the date of their first positive test.
- No subsequent illness or symptoms of COVID-19 have developed

No additional testing is needed to discontinue precautions for immunocompetent, asymptomatic patients.

10. According to NYP policy, what is required for a severely immunocompromised patient with a positive SARS-CoV-2 PCR test to be removed from transmission-based (isolation) precautions? What conditions count as “severely immunocompromised”?

Severely immunocompromised patients, whether symptomatic or asymptomatic, still require retesting (i.e., a Test-Based Strategy) to discontinue isolation precautions. Data on infectivity is more limited in the severely immunocompromised population, and therefore, a more conservative approach is recommended in this population.

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Severely immunocompromised patients include bone marrow transplant recipients, solid organ transplant recipients, patients receiving cytotoxic chemotherapy for cancer, untreated HIV infection with CD4 T lymphocyte count < 200, combined primary immunodeficiency disorder, and receipt of prednisone >20mg/day for more than 14 days.

Severely immunocompromised patients can be cleared from isolation when the following criteria are met:

- At least **10 days** have passed since the date of the first positive COVID-19 diagnostic test, AND
- At least **24 hours without fever** without use of antipyretics, AND
- Marked improvement in symptoms (e.g., cough, shortness of breath), AND
- **Has tested negative for SARS-CoV-2** as follows:
 - Negative results of a molecular assay (PCR) for SARS-CoV-2 from two (2) consecutive nasopharyngeal swab specimens collected > 24 hours apart.
 - In patients with a tracheostomy or endotracheal tube, at least one negative lower respiratory tract specimen (i.e., tracheal aspirate) is also required (obtain after two negative NP swabs).
 - [See Guidance for Discontinuing Isolation for Patients with Confirmed COVID-19.](#)

11. Are there any differences in the criteria to discontinue transmission-based precautions in the ambulatory versus ED/inpatient setting?

This new guidance now applies to all care settings. Previously there were two separate guidelines for the ambulatory versus ED/inpatient settings but these policies have now been merged into one document.

NOTE: Severely immunocompromised NON-HOSPITALIZED patients, who have met all clinical criteria including no fever for at least 24 hours and marked improvement in symptoms, can have transmission-based precautions discontinued without additional testing if at least **4 weeks** have passed since the initial positive SARS-CoV-2 PCR test. If such a patient is being HOSPITALIZED more than **4 weeks** after the initial positive SARS-CoV-2 PCR test, neither repeat testing nor institution of transmission-based precautions for COVID-19 are required.

12. Is a terminal room cleaning required prior to discontinuation of transmission-based precautions?

No. Data suggest SARS-CoV-2 remains viable on surfaces for a short period of time (< ~3 days).¹² Therefore, by the time patients have met criteria for

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discontinuation of transmission-based precautions, environmental surfaces in the patient care environment do not pose a significant infectious risk and requiring terminal room cleaning may unnecessarily adversely impact patient flow.

13. Do patients with a documented exposure to COVID-19 or who have traveled internationally or to a NYS DOH restricted US state require isolation in the hospital?

Yes, based on guidance from the NYS DOH, even if these patients are asymptomatic and have a negative SARS-CoV-2 PCR, they should be placed on contact/droplet precautions and isolated in a single room during their hospitalization or in an ambulatory care setting. The duration of isolation for these patients is **14 days** from their last exposure or from their last day of travel in the foreign country or state included in the NYSDOH travel advisory. The rationale is based on the potential for false negative testing during the incubation period and the possibility of asymptomatic/pre-symptomatic transmission.

COVID-RECOVERED PATIENTS: RETESTING AND “RE-POSITIVE” PATIENTS

14. What does it mean when a patient with COVID-19 who was cleared from isolation based on the criteria listed above, has a subsequent positive SARS-CoV-2 PCR test (“re-positive”)? Is the patient again infectious? Has the patient been re-infected?

Based on extensive data from South Korea, no live/viable virus has been cultured from patients with “re-positive” PCRs, suggesting that people with “re-positive” results are not infectious. Furthermore, no secondary transmission has been reported from individuals who were exposed to these patients at the time of “re-positive” results.² Therefore, it appears that these “re-positive” (positive, to negative, back to positive) PCR test results likely represent fluctuating results due to low levels of viral RNA just above and below the threshold of detection, and do **not** suggest persistent or recurrent infectivity.

15. If a patient with COVID-19 is cleared from isolation, but subsequently tests positive again (“re-positive”), do they need to be re-isolated?

In the absence of new symptoms consistent with COVID-19, since current evidence does not show that these “re-positive” patients are infectious, a patient with COVID-19 who was cleared from isolation based on either a Symptom-Based Strategy or Test-Based Strategy (as described in Questions 7-10) who subsequently tests positive again does NOT need to be re-isolated, nor do they need to be retested for SARS-CoV-2.

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If a patient has developed new symptoms consistent with COVID-19, while it remains unlikely that the “re-positive” PCR represents infectious virus, it is reasonable to initially place the patient on contact/droplet precautions while evaluating alternative etiologies for the symptoms. Discuss with IP&C the need to keep the patient on isolation precautions.

16. If a “COVID-recovered” patient is readmitted, do they need to be retested on admission? Do COVID-recovered patients ever require retesting?

In general, “COVID-recovered” patients (patients who previously tested positive for SARS-CoV-2, but have subsequently met criteria for discontinuing transmission-based precautions) do **NOT** need to be retested on readmission, in the outpatient setting or during a hospitalization.

NOTE: Such patients do require re-testing for the following indications:

- Patients scheduled for an elective outpatient surgery or procedure who need a negative test within 5 days prior to the procedure as per NYS DOH guidelines. See [Guidance for Surgery and Other Procedures: Screening, Testing, and PPE for COVID-19](#) for more information.
- Patients being discharged to a nursing home without a previously documented negative test
- Testing may be considered in COVID-recovered patients who present with NEW symptoms consistent with COVID-19 that cannot explained by an alternate diagnosis

If a COVID-recovered patient has met criteria for discontinuing precautions but has not yet been removed from isolation, contact IP&C. See [Guidance for Discontinuing Transmission-Based Precautions for Patients with Confirmed COVID-19](#) and [Guidance for ED and Inpatient Setting: Screening, Testing, and PPE for COVID-19](#) for more details.

References

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