Introduction

The Rhode Island Department of Health (RIDOH) shares this updated guidance for healthcare providers regarding the discontinuation of patient isolation after recovery from COVID-19. This guidance also offers important information on how to interpret a patient’s polymerase chain reaction (PCR) COVID-19 test results. The purpose of this clinical guidance is to:

1. Review current Centers for Disease Control and Prevention (CDC) guidance about the use of the symptom-based strategy for ending isolation after recovery from COVID-19;
2. Suggest potential challenges to using a test-based strategy for ending isolation after recovery from COVID-19;
3. Express the preference for Rhode Island healthcare providers to use the symptom-based strategy in determining if symptomatic patients may end isolation;
4. Emphasize the preference for Rhode Island healthcare providers to use the time-based strategy in determining if asymptomatic patients may end isolation; and,
5. Address healthcare providers’ frequently asked questions (FAQs) about ending home isolation, return to work, and interpretation of COVID-19 PCR test results.

Background

RIDOH strongly recommends healthcare providers use clinical judgment to determine if a patient has signs and symptoms compatible with COVID-19, and maintain a low threshold to test patients. According to the CDC, asymptomatic infection of SARS-CoV-2, the virus that causes COVID-19, has been reported and may be common in 30%-50% of patients. Clinicians should use clinical judgement regarding the testing of asymptomatic patients when there is suspicion of infection due to epidemiological risk factors. Further, clinicians do not need permission from RIDOH to test any patient for SARS-CoV-2.

For symptomatic patients diagnosed with COVID-19, CDC offers two strategies for determining recovery and discontinuation of isolation requirements: a symptom-based strategy and a test-based strategy.

On April 30, 2020, CDC updated Criteria for Return to Work for Healthcare Personnel with Suspected or Confirmed COVID-19,\(^i\) removing guidance about the test-based strategy being preferred. In this April 30 guidance, CDC also extended the duration of exclusion from work to at least 10 days since COVID-19 symptom onset when using the symptom-based strategy.

On May 3, 2020, CDC posted a decision memo with published and unpublished evidence for the rationale in extending the duration of isolation from seven to 10 days when using the symptom-based strategy.\(^ii\) This evidence includes unpublished data noting that replication-competent virus has not been successfully cultured more than nine days after onset of illness.\(^iii\) The statistically estimated likelihood of recovering replication-competent virus approaches zero by 10 days in many patients (CDC unpublished data, Wölfel 2020, Arons 2020).\(^iv\) On May 29, 2020, CDC included additional guidance about the management of persons who may have prolonged viral shedding after recovery.\(^v\)

RIDOH reminds clinicians that diagnostic testing via nasal PCR can be ordered at many COVID-19 testing sites in Rhode Island, and encourages healthcare providers to refer patients to a testing site if they are unable to perform COVID-19 testing. Testing sites can be viewed on RIDOH’s COVID-19 Testing Locator.
CDC Recommendations for Isolation

The following are CDC recommendations for persons who have COVID-19, who **have symptoms**, and were directed to care for themselves at home. These individuals may discontinue isolation when conditions of either of the following strategies are met:

1) **Symptom-based strategy**
   - At least three days (72 hours) have passed *since recovery* – defined as resolution of fever without the use of fever-reducing medications **and** improvement in respiratory symptoms (e.g., cough, shortness of breath); **and**,
   - At least 10 days have passed *since symptoms first appeared*.

2) **Test-based strategy**
   - Resolution of fever **without** the use of fever-reducing medications **and**
   - Improvement in respiratory symptoms (e.g., cough, shortness of breath), **and**
   - Negative results of a Food and Drug Administration (FDA) Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive respiratory specimens collected at least 24 hours apart (total of two negative specimens). See *Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 (COVID-19)*. Of note, there have been reports of prolonged detection of RNA without direct correlation to viral culture.

The following are CDC recommendations for persons who have **not had COVID-19 symptoms** (asymptomatic) but have tested positive for COVID-19. These individuals are directed to care for themselves at home and may discontinue isolation when conditions of either of the following strategies are met:

1) **Time-Based Strategy**
   - At least 10 days have passed since the date of their first positive COVID-19 diagnostic test, assuming they have not subsequently developed symptoms since their positive test. If they develop symptoms, then the symptom-based or test-based strategy should be used. Note: Symptoms cannot be used to gauge where these individuals are in the course of their illness. It is possible that the duration of viral shedding could be longer or shorter than 10 days after an initial positive test.

2) **Test-Based Strategy**
   - Negative results of an FDA Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive respiratory specimens collected at least 24 hours apart (total of two negative specimens). See *Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 (COVID-19)*. Note: If there is an absence of symptoms, then it might not be possible to gauge where these individuals are in the course of their illness. There have been reports of prolonged detection of RNA without direct correlation to viral culture.

**RIDOH strongly encourages the use of the symptom-based strategy for symptomatic patients and the time-based strategy for asymptomatic patients who test positive.** RIDOH has observed several challenges in utilizing the test-based strategy, including: lack of timely access to testing, additional days of isolation and work absence due to test result turn-around time, and continuation of positive test results long after symptoms have resolved and when the likelihood of transmission is extremely low.
There are situations when a test-based strategy should be considered, including the testing of the following populations:

1. Persons who could pose a risk of transmitting infection to vulnerable individuals at high risk for morbidity or mortality from COVID-19 (e.g., nursing home or assisted living residents);
2. Persons who are immunocompromised with the potential for prolonged viral shedding.

RIDOH supports the decision made by several hospitals in Rhode Island to utilize the symptom-based strategy for determining return to work for healthcare workers. If a healthcare provider or employer opts to use the test-based strategy, RIDOH recommends considering the requirement of one negative test result rather than two consecutive negative tests.

If the test-based strategy is used and the result is still positive despite resolution of symptoms, one could shift to using the time-based strategy rather than obtaining additional test(s). In this scenario, a person could end isolation after 10 days have passed since the date of the last diagnostic test, assuming they have not subsequently developed COVID-19 symptoms since their positive test. RIDOH recognizes that persistently positive nasal swab PCR tests may represent the detection of remnant RNA from COVID-19; however, current evidence does not support this representing transmissible virus after nine days.
Frequently Asked Questions:
Discontinuing Isolation after Recovery from COVID-19
and Interpretation of COVID-19 PCR Test Results

My patient is in home isolation due to COVID-19. If additional household members test positive for COVID-19, does my patient need to extend the period of isolation?

- No. A patient may end isolation when meeting the criteria of one of the recommended strategies above (symptom-based, test-based, or time-based). The isolation duration of others in the household has no bearing on determining your patient’s discontinuation of isolation.

My patient had COVID-19 and recovered and was just notified of being a close contact of a confirmed case. Does my patient have immunity? Does my patient need to quarantine?

- There is uncertainty regarding the duration of immunity after a confirmed COVID-19 infection; it is reasonable to assume limited, short-term immunity. RIDOH is not recommending quarantine in such situations if exposure to a confirmed case occurred within six weeks of the last day of isolation. If your patient is a close contact of a confirmed case more than six weeks after ending isolation, then quarantine for 14 days is recommended.

When using the symptom-based strategy, RIDOH has recommended that a person be completely symptom-free for 72 hours. What about a patient who has an underlying health condition like chronic obstructive pulmonary disease (COPD) and has a cough or shortness of breath at baseline? What about a patient with anosmia or ageusia?

- For patients with underlying health conditions, symptomatic recovery can be determined using CDC criteria: At least three days (72 hours) have passed since resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms (e.g., cough, shortness of breath); and, at least 10 days have passed since symptoms first appeared.
- Symptoms of anosmia and ageusia may take longer to resolve and should not be used to determine if a patient is considered recovered or has transmissible virus.

Do I need to have a negative test to end home isolation and return to work if I am a healthcare worker, public safety worker, or first responder?

- RIDOH generally supports the use of the symptom-based strategy for symptomatic workers testing positive and the time-based strategy for asymptomatic workers testing positive. An employer may choose to require the test-based strategy. A healthcare provider can recommend the test-based strategy when clinically appropriate.

I have had patients who cannot be transferred due to persistently positive tests or have needed to be in isolation for a long duration when they are completely recovered symptomatically. What is the requirement for a negative test prior to transfer to a long-term care facility or other congregate living setting?

- RIDOH recommends one negative COVID-19 test for patients being transferred to a non-COVID facility or congregate living setting. However, RIDOH recognizes that some symptomatically recovered patients have continued to test positive for a prolonged period. Emerging data point to a negligible risk of transmission of COVID-19 beyond nine days post symptom onset and that PCR positive tests in such circumstances likely represent the detection of non-infectious viral fragments. An alternative approach to repeated testing is to:
1. Obtain one PCR test prior to transfer when the patient has had three days (72 hours) since resolution of fever without the use of fever-reducing medications and improvement in respiratory symptoms.

2. If this test is negative, continue isolation for 10 days from symptom onset (at the receiving facility/congregate setting if feasible), or no need for isolation if 10 days have already passed from symptom onset.

3. If this test is positive, switch to a time-based strategy of continuing isolation for 10 days since the asymptomatic positive test. Consider implementing this continued period of isolation at the receiving facility/congregate setting if feasible.

I am evaluating a patient who has already had a confirmed case of COVID-19 and is now presenting with symptoms of COVID-19. Given this scenario, could this patient be re-infected with COVID-19? Does RIDOH recommend ordering a PCR test? How does a healthcare provider interpret a PCR positive test in this scenario?

- There is clinical uncertainty about reinfection from COVID-19. There is uncertainty regarding duration, if any, of immunity after recovering from COVID-19. Healthcare providers should use clinical judgement and may test a patient if desired. If testing is performed and the result is positive, the patient should be placed in isolation again. RIDOH encourages the use of the symptom-based strategy for discontinuing isolation unless the test-based strategy is clinically necessary.

I have a patient who had a confirmed COVID-19 infection, met criteria for discontinuation of isolation precautions, and has had SARS-CoV-2 PCR-positive respiratory tract specimens over the subsequent several weeks. Is my patient still infectious? Are isolation precautions required?

- After meeting criteria for discontinuing isolation, additional positive PCR tests within six weeks of ending isolation are unlikely to represent ongoing infection or transmission risk and do not require re-initiation of isolation precautions. However, if a patient has new onset of respiratory symptoms with subsequent positive PCR tests, the patient should isolate again. Severely immunocompromised patients may remain infectious for a longer period of time and consultation with an infectious disease specialist may be helpful for clinical decision-making in such cases.

Hospitals are required to report all COVID-19 positive cases in the Hospital Incident Reporting System (HIRS). If a hospital removes a patient from isolation in HIRS, can the hospital also remove the patient from the count of COVID-19 positive patients?

- RIDOH will make the necessary adjustment in HRIS to allow hospitals to identify, or “flag,” patients who have been removed from isolation.

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