

Statement on Intermittent Viral Shedding (Updated 08/21/2020)



In persons with COVID-19, after the acute phase of the illness has subsided, detection of SARS CoV-2 by PCR has been noted in both prolonged and intermittent patterns. Detection of viral RNA does not necessarily correlate with infectivity. This is an important concept to understand, and if not well understood, can result in significant anxiety regarding the implications of detecting virus RNA as it relates to infection control practices.

Detection of viral RNA: Many studies report the detection of SARS-CoV-2 for weeks to months after illness onset. These reports have generally used molecular tests which detect viral RNA and do not indicate if the virus is viable. ONLY live, or viable virus, is capable of being transmitted from person-to-person, and while patients may have detection of viral RNA, this does not necessarily translate to detection of viable and transmissible virus.

Viable viral detection: Viable virus detection is based on viral culture data in which the virus is grown from the sample received and could therefore theoretically be transmitted from person-to-person. Even the detection of viable virus does not confirm that the virus is transmissible as the ability of a virus to transmit disease is dependent on a variety of factors including amount of virus present, susceptibility of the host, environmental conditions, duration of exposure, and protective equipment worn. Generally only patients with viable virus are at risk for transmitting virus.

Data to date strongly suggests that immunocompetent persons with mild to moderate illness do not shed viable virus after day 10 of illness and transmission is not possible. Specific data and statements from the US and Korean Centers for Disease Control and Singapore National Centre for Infectious Diseases are listed below.

- “Available data indicate that persons with mild to moderate COVID-19 remain infectious no longer than 10 days after symptom onset.” CDC statement from Decision memo on Duration of Isolation.
https://www.cdc.gov/coronavirus/2019-ncov/hcp/duration-isolation.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcommunity%2Fstrategy-discontinue-isolation.html
- A study from South Korea evaluated COVID19 patients who had exited isolation based on symptoms who had subsequently tested positive for SARS-CoV-2 (N=285). Of these, 108 underwent viral culture and no viable virus was detected. Additionally, 790 contacts of these patients were traced with zero confirmed transmissions of infection.
<https://www.cdc.go.kr/board/board.es?mid=a30402000000&bid=0030>
- In a study from Singapore of 73 COVID-19 positive patients, viable virus could not be isolated or cultured after day 11 of illness. [https://www.ams.edu.sg/view-pdf.aspx?file=media%5c5556_fi_331.pdf&ofile=Period+of+Infectivity+Position+Statement+\(final\)+23-5-20+\(logos\).pdf](https://www.ams.edu.sg/view-pdf.aspx?file=media%5c5556_fi_331.pdf&ofile=Period+of+Infectivity+Position+Statement+(final)+23-5-20+(logos).pdf)

Data on immunocompromised person and those with severe disease is currently more limited and they may shed infectious virus for longer than 10 days but that time period does not appear to exceed 20 days. Thus we recommend immunocompromised and hospitalized patients be isolated for 21 days post illness onset. For further information see Duration of Isolation Guidance.

Retesting in patients who have previously been diagnosed with COVID:

Patients who reach the 21 day milestone should not have any further SARS-CoV-2 testing to document clearance and routine pre-procedural and admission screening should be stopped for 3 months. Patients with prior COVID-19 who have recovered completely and present within 3 months of diagnosis with findings suggestive of COVID-19 may be retested but the decisions to test should be made after consultation with the COVID ID MD.

If a patient diagnosed with COVID-19 exits isolation (inpatient 2 negative tests, outpatient 10 or 21 days post symptom onset) and repeat testing occurs and is positive, they are not considered infectious, do not require transfer to the COVID unit, and no extra precautions are necessary beyond standard universal precautions. All providers should comply with universal masking and eyewear policies.