

Editor's Note

COVID-19 Lessons From the National Basketball Association Bubble—Can Persistently SARS-CoV-2-Positive Individuals Transmit Infection to Others?

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A fundamental question of the COVID-19 pandemic has been when it is safe to discontinue isolation precautions in patients who have recovered. The US Centers for Disease Control and Prevention (CDC) originally recommended a test-based strategy for discontinuing isolation, requiring 2 consecutive negative reverse-transcription-polymerase chain reaction (RT-PCR) tests at least 24 hours apart. However, as experience with COVID-19 accumulated, we learned that a small number of individuals continue to shed virus long after infection. Given that it appeared that the virus from these persistently positive individuals was not replication competent¹ and there was minimal risk of transmission after sufficient time passed after symptom onset,² the CDC shifted to a symptom-based strategy in July 2020, advising that isolation and precautions can be discontinued 10 days after symptom onset or a patient's first positive RT-PCR result, unless the patient is immunocompromised or had severe disease.

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In this issue of *JAMA Internal Medicine*, Mack et al³ examine the National Basketball Association (NBA) 2020 closed-campus ("bubble") season to assess whether persistently positive individuals can transmit virus. Among 3648 individuals undergoing RT-PCR testing in the NBA bubble, there were 36

persistently positive cases (34 men [94%]). These persistently positive cases produced 1480 person-days of close-contact activities with no transmission events detected.

In many ways, the NBA bubble season, with a fixed population of players and supportive personnel who participated in daily testing and many who were exposed regularly to high-risk indoor, unmasked, close-contact activities, was an ideal experiment to test the transmissibility of persistently positive individuals. However, this was a group of predominantly young, healthy individuals, and none of the persistently positive individuals in this study required hospitalization. As such, these results should not be generalized to those who are immunocompromised or those with severe COVID-19 infections. Moreover, the person-days of maskless, close contact happened a minimum of 2 weeks after the initial infection given the NBA's cardiac screening protocol, and many of the initial infections happened longer than 3 weeks before arrival to the bubble. As such, this study is unable to provide insight into the ideal timing for discontinuation of precautions in the general public. These limitations notwithstanding, this real-world experiment is one that is unlikely to be repeated and provides convincing evidence that a symptom-based strategy for discontinuation of precautions is the right approach.

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Published Online: April 22, 2021.
doi:10.1001/jamainternmed.2021.2121

Conflict of Interest Disclosures: Dr Salazar reports support from the National Heart, Lung, and Blood Institute (grant R38HL143581). No other disclosures were reported.

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