

Editor's Note

How to Advise Persons Who Are Antibody Positive for SARS-CoV-2 About Future Infection Risk

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As a physician working in New York, New York, where coronavirus disease 2019 (COVID-19) hit hard in March and April of 2020, people often ask me how to interpret their severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) antibody re-

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sults. Many people have positive test results for the antibody, some of them received a diagnosis of COVID-19, some of them had symptoms that were consistent with COVID-19 but were never tested because of a limited availability of testing, and some were never symptomatic but learned that they were positive for the antibody on a subsequent laboratory test. If they are positive, they want to know whether they are protected from a future infection with the virus.

Underlying the question of whether the presence of antibodies provides protection against future infections are 3 questions: are antibodies protective, how good are the available tests for accurately detecting antibodies, and how long does protection last? To address the first question, we know that most patients who recover from COVID-19 have antibodies and that reinfection (as opposed to extended symptoms or ongoing viral shedding) is rare, at least at this date. However, even if antibodies are protective, there remains a question of how accurate commercial tests are for detecting antibodies.

The study in this issue of *JAMA Internal Medicine* by Harvey and colleagues¹ provides reassuring answers to the first and second questions. Using a national database with more than 3 million unique patients, the authors found that patients with a positive antibody test result were more likely than those with a negative test result to have a subsequent positive nucleic acid amplification test result for SARS-CoV-2 in the first 30 days from the test result (viral shedding), but that starting at beyond 30 days, the risk of a positive nucleic acid amplification test declined every 30 days, until the risk ratio for those with an initial positive test at 90 days or greater follow-up was only 0.10 compared with those with a negative test. Antibody tests, in this study, appeared accurate and the antibodies protective. Their findings are consistent with a study of health care workers that found that the incidence of SARS-CoV-2 infection in 1265 workers with antispikes antibodies was 0.13 per 10 000 days at risk compared with 1.09 for 11 364 workers who were seronegative for these antibodies.²

Unfortunately, neither study can answer how long antibody protection will last because of natural infection. For this reason, vaccination against SARS-CoV-2 is recommended regardless of antibody status. How long the antibody protection provided by vaccines will last is also unknown. To know how long protection will last with antibodies because of natural infection or vaccination is something only time will tell.

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1. Harvey RA, Rassen JA, Kabelac CA, et al. Association of SARS-CoV-2 seropositive antibody test with risk of future infection. *JAMA Intern Med*. Published online February 24, 2021. doi:[10.1001/jamainternmed.2021.0366](https://doi.org/10.1001/jamainternmed.2021.0366)

2. Lumley SF, O'Donnell D, Stoesser NE, et al; Oxford University Hospitals Staff Testing Group. Antibody status and incidence of SARS-CoV-2 infection in health care workers. *N Engl J Med*. 2020. doi:[10.1056/NEJMoa2034545](https://doi.org/10.1056/NEJMoa2034545)