

Studies Report Rapid Loss of COVID-19 Antibodies

The results, while preliminary, suggest that survivors of SARS-CoV-2 infection may be susceptible to reinfection within weeks or months.



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A pair of studies published this week is shedding light on the duration of immunity following COVID-19, showing patients lose their IgG antibodies—the virus-specific, slower-forming antibodies associated with long-term immunity—within weeks or months after recovery. With COVID-19, most people who become infected do [produce antibodies](#), and [even small amounts](#) can still neutralize the virus in vitro, according to earlier work. These latest studies could not determine if a lack of antibodies leaves people at risk of reinfection.

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One of the studies found that 10 percent of nearly 1,500 COVID-positive patients registered undetectable antibody levels within weeks of first showing symptoms, while the other of 74 patients found they typically lost their antibodies two to three months after recovering from the infection, especially among those who tested positive but were asymptomatic.

In contrast, infections caused by coronavirus cousins such as SARS and MERS result in antibodies that remain in the body for nearly a year, according to [The New York Times](#).

The first study, published June 16 on the preprint server [medRxiv](#), screened for antibodies in almost 1,500 coronavirus patients in Wuhan, China. The researchers compared their levels to three other groups: nearly 20,000 members of the general population; more than 1,600 patients hospitalized for reasons other than COVID-19; and more than 3,800 medical workers, whom the authors assumed had “inevitably” been exposed to the virus in its early days, meaning they should have developed antibodies.

They found that while almost 90 percent of COVID-19 patients had antibodies, roughly 1 percent to 5 percent of individuals in the others groups had them as well. The authors conclude in their paper that the remaining 10 percent of infected patients with no detectable antibodies, combined with the lack of antibodies in healthcare workers, suggest that “after SARS-CoV-2 infection, people are unlikely to produce long-lasting protective antibodies against this virus.”

See “What Do Antibody Tests For SARS-CoV-2 Tell Us About Immunity?”

In the second study, published June 18 in *Nature Medicine*, researchers compared the immune responses of 37 asymptomatic but positive patients to an equal number with severe symptoms living in the Wanzhou District in China. They found that asymptomatic individuals reacted less strongly to infection, with 40 percent having undetectable levels of protective antibodies in the two to three months after the infection compared to 13 percent of the symptomatic patients.

“Overall, these results are interesting and provocative but more research is needed, following large numbers of people over time,” Daniel Davis, an immunologist at the University of Manchester, tells *Newsweek*. “Only then will we clearly know how many people produce antibodies when infected with coronavirus, and for how long.”

The discrepancies between people mirror what Anthony Fauci, the director of the National Institute of Allergy and Infectious Diseases, has himself observed. In a [conversation](#) with Howard Bauchner, the editor in chief of the *Journal of the American Medical Association* earlier this month, he said that in addition to a lack of consistency among testing methods, individuals do not have “a uniformly robust antibody response.” This fact may make it difficult to develop a vaccine that works equally well for all people.

See “Why the Accuracy of SARS-CoV-2 Antibody Tests Varies So Much”

“These reports highlight the need to develop strong vaccines, because immunity that develops naturally during infection is suboptimal and short-lived in most people,” Akiko Iwasaki, a viral immunologist at Yale University who was not involved in either study, tells *The New York Times*. “We cannot rely on natural infection to achieve herd immunity.”

Keywords:

[antibodies](#), [coronavirus](#), [COVID-19](#), [disease & medicine](#), [IgG](#), [immune response](#), [immunity](#), [immunology](#), [pandemic](#), [preprint](#), [SARS-CoV-2](#)