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BRIEF19

A daily review of covid-19 research and policy

RESEARCH BRIEFING

Antibodies to SARS-CoV-2 are highly protective against future infection, but not perfect.

Since the covid-19 pandemic broke out, many have worried and wondered whether those who have recovered from infection might be able to be re-infected. While there have been reports of repeat infections, they appear to be unusual and so far, most re-infections have caused milder illnesses the second time around. New data in [JAMA Internal Medicine](#) quantifies this.

Patients found to have antibodies against SARS-CoV-2 at the start of the study were rechecked for signs of an active infection by way of genetic tests that detect the genetic material of the virus at various time points. In the first 30 days, over 11 percent of patients with antibodies were found to have positive tests for active infection, meaning that those patients still had not cleared the virus entirely (though that does not mean they were contagious or symptomatic). Over the next month, only 2.7 percent were found to be positive. After 90 days, 0.3 percent of those who were found to have antibodies at first (or one in 333) were found to have signs of an active infection.

Meanwhile, among those with antibodies at the outset, some did lose those antibodies over time. After 60 days, over 18 percent of those with detectable antibodies at the outset no longer were found to have them. This means that the antibody levels of these patients fell below detectable limits.

All of this implies that re-infection is possible, though in a small minority of patients. The fact 18 percent of the subjects had antibody levels fall below detectable levels two and three months after the study began *but* only 0.3 percent were found to have acquired an active infection after three months implies that people may remain immune despite having antibody levels below the detection limits.

The good news is that the coronavirus vaccines currently available to the public have been shown to provide higher levels of antibodies than natural infection. It's possible then that any effects described in this study may be the worst-case scenario, with vaccines providing a safer path forward.

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Kimi Chernoby, MD, JD, Policy Section Founder, Joshua Niforatos, MD Research Section Editor, Frederick Milgrim, MD, Editor-at-Large, Barb Cunningham, Copy-editor, Benjy Renton, Thread-of-the-Week, Anna Fang, Week-in-Review, Megan Davis, social media, Kane Elfman PhD, Publishing and Design, Jeremy Samuel Faust MD MS, Editor-in-Chief. <http://www.brief19.com/> Twitter: [@brief_19](https://twitter.com/brief_19) submissions@brief19.com. Brief19 is a daily executive summary of covid-19-related medical research, news, and public policy. It was founded and created by frontline emergency medicine physicians with expertise in medical research critique, health and public policy.