

CDC study finds COVID-19 survivors should still get vaccinated

Even people who have recovered from COVID-19 are urged to get vaccinated, especially as the extra-contagious delta variant surges—and a new study shows survivors who ignored that advice were more than twice as likely to get reinfected.

Friday's report from the Centers for Disease Control and Prevention adds to growing laboratory evidence that people who had one bout of COVID-19 get a dramatic boost in virus-fighting immune cells—and a bonus of broader protection against new mutants—when they're vaccinated.

"If you have had COVID-19 before, please still get vaccinated," said CDC Director Dr. Rochelle Walensky. "Getting the vaccine is the best way to protect yourself and others around you, especially as the more contagious delta variant spreads around the country."

According to a new Gallup survey, one of the main reasons Americans cite for not planning to get vaccinated is the belief that they're protected since they already had COVID-19. From the beginning health authorities have urged survivors to get the broader protection vaccination promises. While the shots aren't perfect, they are providing strong protection against hospitalization and death even from the delta mutant.

Scientists say infection does generally leave survivors protected against a serious reinfection at least with a similar version of the virus, but blood tests have signaled that protection drops against worrisome variants.

The CDC study offers some real-world evidence.

Researchers studied Kentucky residents with a lab-confirmed coronavirus infection in 2020, the vast majority of them between October and December. They compared 246 people who got reinfected in May or June of this year with 492 similar survivors who stayed healthy. The survivors who never got vaccinated had

a significantly higher risk of reinfection than those who were fully vaccinated, even though most had their first bout of COVID-19 just six to nine months ago.

A different variant of the coronavirus caused most illnesses in 2020, while the newer alpha version was predominant in Kentucky in May and June, said study lead author Alyson Cavanaugh, a CDC disease detective working with that state's health department.

That suggests natural immunity from earlier infection isn't as strong as the boost those people can get from vaccination while the virus evolves, she said.

There's little information yet on reinfections with the newer delta variant. But U.S. health officials point to early data from Britain that the reinfection risk appears greater with delta than with the once-common alpha variant, once people are six months past their prior infection.

"There's no doubt" that vaccinating a COVID-19 survivor enhances both the amount and breadth of immunity "so that you cover not only the original (virus) but the variants," Dr. Anthony Fauci, the U.S. government's top infectious disease expert, said at a recent White House briefing.

The CDC recommends full vaccination, meaning both doses of two-dose vaccines, for everyone.

But in a separate study published Friday in JAMA Network Open, Rush University researchers reported just one vaccine dose gives the previously infected a dramatic boost in virus-fighting immune cells, more than people who have never been infected get from two shots.

Other recent studies published in Science and Nature show the combination of a prior infection and vaccination also broadens the strength of people's immunity against a changing virus. It's what virologist Shane Crotty of California's La Jolla Institute for Immunology calls "hybrid immunity."

Vaccinated survivors "can make antibodies that can recognize all kinds of variants even if you were never exposed to the variant," Crotty said. "It's pretty sweet."

One warning for anyone thinking of skipping vaccination if they had a prior infection: The amount of natural immunity can vary from person to person, possibly depending on how sick they were to begin with. The Rush University

study found four of 29 previously infected people had no detectable antibodies before they were vaccinated — and the vaccines worked for them just like they work for people who never had COVID-19.

Why do many of the previously infected have such a robust response to vaccination? It has to do with how the immune system develops multiple layers of protection.

After either vaccination or infection, the body develops antibodies that can fend off the coronavirus the next time it tries to invade. Those naturally wane over time. If an infection sneaks past them, T cells help prevent serious illness by killing virus-infected cells—and memory B cells jump into action to make lots of new antibodies.

Those memory B cells don't just make copies of the original antibodies. In immune system boot camps called germinal centers, they also mutate antibody-producing genes to test out a range of those virus fighters, explained University of Pennsylvania immunologist John Wherry.

The result is essentially a library of antibody recipes that the body can choose from after future exposures—and that process is stronger when vaccination triggers the immune system's original memory of fighting the actual virus.

With the delta variant's super infectiousness, getting vaccinated despite a prior infection "is more important now than it was before to be sure," Crotty said. "The breadth of your antibodies and potency against variants is going to be far better than what you have right now."

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