

Booster shots prompt stronger, longer protection than original shots, says study

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COVID-19 booster shots trigger much stronger and longer protection

than full vaccination with two doses of the Pfizer or Moderna vaccines, according to a small study.

It also found that the response to a booster is even greater in fully vaccinated people who have had infections.

"Because these antibody levels are so robust, the booster could potentially give us protection for a longer duration than what we saw for two doses of the [vaccine](#)," study co-author Alexis Demonbreun said in a Northwestern University news release. She is an assistant professor of pharmacology at Northwestern's Feinberg School of Medicine in Chicago.

For this study, the researchers analyzed blood samples from 33 healthy, fully vaccinated young adults in the Chicago area. Their median age was 43, meaning half were older, half younger.

Nine months after they had two doses of the Pfizer or Moderna vaccines, their neutralizing antibody levels to SARS-CoV-2 had decreased about 10-fold, the study found. After a booster shot, antibody levels rose 25-fold—five times higher than after two doses of the vaccine.

Booster antibodies were 50 times higher than those from natural [infection](#), according to findings published Nov. 21 on medRxiv, a preprint server for health sciences.

Because the study has not yet been peer-reviewed, it should be considered a preliminary finding.

The researchers said booster doses trigger a high level of neutralizing antibodies against the Delta variant, which should provide much protection. However, the response was even higher against the original version of the virus because it's the one that vaccines target.

Co-author Thomas McDade said the findings are relevant to anyone who is considering a booster shot.

"We know the mRNA vaccines provide a high level of protection against serious cases of COVID-19 that lead to hospitalization or death," said McDade, a fellow with the university's Institute for Policy Research.

"But immunity wanes over time—particularly levels of [antibodies](#) that help prevent infection—and we are seeing higher rates of breakthrough infections as a result, particularly in combination with the rise of the more infectious Delta variant," he said in the release.

Demonbreun said researchers think the robust effect of [booster](#) shots observed in this small group will be mirrored in much larger population.

Since the pandemic began, the researchers have been evaluating antibody responses from natural infection and after each dose of COVID vaccines, and have published a number of studies with their findings.

They will continue to evaluate [antibody levels](#) over time and monitor breakthrough infections to assess waning immunity.

More information: The U.S. Centers for Disease Control and Prevention has more on [COVID-19 vaccine booster shots](#).

Please [click here for the study](#).

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