

Why should I get vaccinated if I have already had COVID?

The CDC recommends that everyone be vaccinated against SARS-CoV-2 (the virus that causes COVID-19), regardless of whether or not they have already had COVID-19. While some individuals may be protected from the virus after infection, others may not be protected and may become reinfected. Further, immunity following natural infection may decrease over time. In order to achieve high levels of immunity and robust protection, even those who have had COVID-19 are currently recommended to complete the COVID-19 vaccine series.

It is unclear how long protection lasts following COVID-19

For some individuals, infection with the virus that causes COVID-19 will create long-lasting immunity. However, it is still unclear how long individuals are protected following an infection. Additionally, the level of protection from infection is variable from person-to-person and this leaves some individuals susceptible to reinfection. Vaccinating those who have been previously infected will provide an additional layer of protection against reinfection.

Many individuals were infected with either the original strain of the virus or the Alpha variant. The Delta variant is now the dominant strain circulating in the United States. Data from England suggests there is an increased risk of reinfection from the Delta variant compared to the Alpha variant, and the risk of reinfection is higher if your first infection was more than 180 days (6 months) ago.¹ Laboratory studies have shown that immunity gained from natural infection may not protect as well against variant strains, while vaccination can provide more stable, long-lasting, and broad protection against variant strains.^{2,3}

COVID vaccines provide a stronger and more consistent antibody response than natural immunity

When a person is infected with the virus that causes COVID-19, the body will generate an immune response, but the strength of this immune response is variable from person to person. Some people will generate a strong immune response, while others will not. The number of antibodies created to fight off an infection appears to be directly related to the seriousness of illness.⁴ Compared to natural infection, studies have shown that vaccination provides a more consistent immune response and, in many cases, produces more antibodies than what our bodies create through natural infection. Antibodies play an important role in immunity and more antibodies may lead to more protection against reinfection.⁵

¹ Health England P. *SARS-CoV-2 Variants of Concern and Variants under Investigation*. Accessed October 3, 2021

² Goel RR, Painter MM, Apostolidis SA, et al. mRNA Vaccination Induces Durable Immune Memory to SARS-CoV-2 with Continued Evolution to Variants of Concern. *bioRxiv*. Published online January 1, 2021:2021.08.23.457229

³ Cavanaugh AM, Spicer KB, Thoroughman D, Glick C, Winter K. Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May–June 2021. *MMWR Morbidity and Mortality Weekly Report*. 2021;70(32).

⁴ Seow J, Graham C, Merrick B, et al. Longitudinal observation and decline of neutralizing antibody responses in the three months following SARS-CoV-2 infection in humans. *Nature Microbiology*. 2020;5(12).

⁵ Mateus J, Dan JM, Zhang Z, et al. Low-dose mRNA-1273 COVID-19 vaccine generates durable memory enhanced by cross-reactive T cells. *Science*. Published online September 14, 2021.

Being vaccinated may protect you from new strains of SARS-CoV-2

While research suggests that COVID-19 vaccines are slightly less effective against variants, the vaccines still provide strong protection against severe disease, hospitalizations and death from COVID-19. Research shows that for those who have previously had COVID, COVID-19 vaccination generated a strong antibody response against the original virus and variants.⁶ Further, scientists have shown that antibodies generated from vaccination are better at neutralizing the Delta variant than antibodies generated from natural infection.⁷

Unvaccinated people are more likely to become re-infected than vaccinated individuals

A recent study that looked at individuals who were previously infected with SARS-CoV-2 found that those who were unvaccinated had **2.34 times** greater odds of reinfection compared to those who were fully vaccinated.⁸ By getting vaccinated against COVID-19, individuals that have previously had COVID-19 can receive additional protection from reinfection.

Vaccination after previous infection may provide the best immunity

Recent evidence shows that individuals who are vaccinated following infection may have the best protection from COVID-19, including broad protection from variants.⁹ This type of immunity, often referred to as “hybrid immunity”, has been shown to produce an immune response that is significantly higher than that of a non-infected person who received two doses of an mRNA vaccine.^{10,11}

Vaccination can occur as soon as you have recovered from COVID-19

Even if you have tested positive for the virus that causes COVID-19, the CDC recommends that you receive a full COVID-19 vaccine series (e.g. two doses of either Moderna or Pfizer’s COVID-19 vaccine or one dose of Johnson and Johnson’s COVID-19 vaccine). You can receive COVID-19 vaccine as soon as you have completed your isolation period. However, the CDC has noted that current evidence suggests reinfection is uncommon in the 90 days after infection, and thus, persons with documented acute infection in the preceding 90 days may defer vaccination until the end of this period, if desired.

Why should I get a COVID-19 vaccine?

COVID-19 vaccines are very effective at preventing severe disease, hospitalization, and death from the virus. By vaccinating against COVID-19, you not only protect yourself, but you may also prevent the spread of the disease to your friends, loved ones, and those in your community.

⁶ Urbanowicz RA, Tsoleridis T, Jackson HJ, et al. Two doses of the SARS-CoV-2 BNT162b2 vaccine enhance antibody responses to variants in individuals with prior SARS-CoV-2 infection. *Science translational medicine*. 2021;13(609).

⁷ Goel RR, Painter MM, Apostolidis SA, et al. mRNA Vaccination Induces Durable Immune Memory to SARS-CoV-2 with Continued Evolution to Variants of Concern. *bioRxiv*. Published online January 1, 2021:2021.08.23.457229.

⁸ Cavanaugh AM, Spicer KB, Thoroughman D, Glick C, Winter K. Reduced Risk of Reinfection with SARS-CoV-2 After COVID-19 Vaccination — Kentucky, May–June 2021. *MMWR Morbidity and Mortality Weekly Report*. 2021;70(32).

⁹ Schmidt F, Weisblum Y, Rutkowska M, et al. High genetic barrier to escape from human polyclonal SARS-CoV-2 neutralizing antibodies. *bioRxiv*. Published online January 1, 2021:2021.08.06.455491.

¹⁰ Stamatatos L, Czartoski J, Wan Y-H, et al. mRNA vaccination boosts cross-variant neutralizing antibodies elicited by SARS-CoV-2 infection. *Science (New York, NY)*. Published online March 25, 2021.

¹¹ Anderson M, Stec M, Rewane A, Landay A, Cloherty G, Moy J. SARS-CoV-2 Antibody Responses in Infection-Naive or Previously Infected Individuals After 1 and 2 Doses of the BNT162b2 Vaccine. *JAMA Network Open*. 2021;4(8).