

# COVID-19 VARIANTS: WHAT'S THE CONCERN?

## Viruses constantly change through mutation.

When a virus has one or more new mutations it's called a variant of the original virus. Currently, several variants of the virus (SARS-CoV-2) that causes coronavirus disease 2019 (COVID-19) are creating concern in the U.S. These variants include:

- **Delta** (B.1.617.2).

This variant is now the most common COVID-19 (coronavirus disease 2019) variant in the U.S. It's nearly twice as contagious as earlier variants and might cause more severe illness. The greatest risk of transmission is among unvaccinated people. But fully vaccinated people with breakthrough infections accompanied by symptoms can also spread the illness to others. This variant also might reduce the effectiveness of some monoclonal antibody treatments and the antibodies generated by a COVID-19 (coronavirus disease 2019) vaccine.

- **Alpha**. (B.1.1.7).

This COVID-19 (coronavirus disease 2019) variant appears to spread more easily, with about a 50% increase in transmission compared to previous circulating variants. This variant also might have an increased risk of hospitalization and death.

- **Gamma** (P.1).

This variant reduces the effectiveness of some monoclonal antibody medications and the antibodies generated by a previous COVID-19 (coronavirus disease 2019) infection or a COVID-19 (coronavirus disease 2019) vaccine.

- **Beta** (B.1.351).

This variant appears to spread more easily, with about a 50% increase in transmission compared to previous circulating variants. It also reduces the effectiveness of some monoclonal antibody medications and the antibodies generated by a previous COVID-19 (coronavirus disease 2019) infection or COVID-19 (coronavirus disease 2019) vaccine.

While research suggests that COVID-19 (coronavirus disease 2019) vaccines are slightly less effective against the variants, the vaccines still appear to provide protection against severe COVID-19 (coronavirus disease 2019). For example:

- Early research from the U.K. suggests that, after full vaccination, the Pfizer-BioNTech COVID-19 (coronavirus disease 2019) vaccine is 88% effective at preventing symptomatic COVID-19 (coronavirus disease 2019) virus caused by the delta variant. The vaccine is 96% effective at preventing severe disease with the COVID-19 (coronavirus disease 2019) virus caused by the delta variant. The research also showed that the vaccine is 93% effective at preventing symptomatic COVID-19 (coronavirus disease 2019) virus caused by the alpha variant.
- Early research from Canada suggests that, after one dose, the Moderna COVID-19 (coronavirus disease 2019) vaccine is 72% effective at preventing symptomatic COVID-19 (coronavirus disease 2019) virus caused by the delta variant. One dose of the vaccine is also 96% effective at preventing severe disease with the COVID-19 virus caused by the delta variant.
- The Janssen/Johnson & Johnson COVID-19 (coronavirus disease 2019) vaccine is 85% effective at preventing severe disease with the COVID-19 (coronavirus disease 2019) virus caused by the delta variant, according to data released by Johnson & Johnson.

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Currently, the CDC and the FDA state that people in the U.S. who have been fully vaccinated don't need a vaccine booster. This is because fully vaccinated people are protected from severe disease and death with the COVID-19 (coronavirus disease 2019) virus, including from COVID-19 (coronavirus disease 2019) variants. Most COVID-19 (coronavirus disease 2019) hospitalizations and deaths are among people who are unvaccinated. However, COVID-19 (coronavirus disease 2019) vaccine manufacturers continue to research and test booster doses.