

Single-dose vaccine joins two-dose vaccines in battle against COVID-19

How does the new vaccine compare with the earlier ones?

By Bryan Mader, DrPH, MPH, CHES
Assistant Professor & Health Specialist



When it comes to COVID-19 vaccinations, there's a new kid in town: a one-dose product from Johnson & Johnson.

The Food and Drug Administration on Feb. 27, 2021, authorized the Johnson & Johnson product as a third vaccine for COVID-19. It joins the Moderna and Pfizer vaccines that previously earned emergency use authorization from the FDA.

What's the difference?

The Johnson & Johnson vaccine differs from the Moderna and Pfizer vaccines in several significant ways:

1) It only requires one dose.

2) It uses a slightly different method to build the body's immune system. Moderna and Pfizer use messenger RNA, or mRNA, which is very fragile. The Johnson and Johnson vaccine uses DNA, which is more stable. It also doesn't require the sub-zero refrigeration needed for the Moderna and Pfizer vaccines.

3) The Johnson and Johnson trials differed from the trials used for Moderna and Pfizer. Pfizer and Moderna tested for any symptomatic cases in the 7-14 days following initial vaccination, whereas Johnson and Johnson wanted to see if a single dose could protect against moderate to severe disease.

Efficacy rates

There has been some attention given to efficacy rate in coverage of the three vaccines. It's difficult to compare the two-dose vaccines against the one-dose vaccine. Like the other two vaccines, Johnson and Johnson performed far above the 50 percent efficacy required by the FDA for emergency use authorization.

Overall, Johnson & Johnson's vaccine showed a 66 percent efficacy rate in global tests and a 72 percent efficacy rate in the United States, while the two-dose vaccines were both shown to have about same efficacy, 94.1 percent for Moderna and 95 percent for Pfizer. It is important to note that the Johnson & Johnson vaccine was shown to have an 85 percent efficacy in protecting against severe COVID-19, which puts it on par with both the Moderna and Pfizer vaccines in that category.

While supplies are still being made, you are likely to receive vaccination sooner by not waiting on a specific brand since all three vaccines are highly protective against severe COVID-19 disease.

For more information about COVID vaccines, visit:

- <https://www.uaex.edu/life-skills-wellness/health/covid19/vaccines.aspx>
- <https://www.cdc.gov/vaccines/covid-19/index.html>
- <https://www.healthy.arkansas.gov/programs-services/topics/covid-19-vaccination-plan>