



## The Latest Evidence Regarding COVID-19 Vaccines

Alan Tanabe/ May 22, 2022/ COVID-19/ 3 comments

Greetings, everybody!

Collectively, we have been through a lot since the first confirmed case of COVID-19. We have seen peaks and valleys in reported cases, hospitalization rates, and deaths. We have seen variants and sub-variants of the initial virus. Additionally, we have seen proposed treatments, ranging from those with poor evidence, to newer treatments that at times, pharmacies have difficulty keeping in stock. However, one "cliche" that has long existed regarding health care still seems to apply. That cliché is "An ounce of prevention is worth a pound of treatment" and the preventative measures that consistently make news are the vaccines. One reason the vaccines get so much attention is because people become concerned if these vaccines are still beneficial. Will getting the available booster shots prevent me from getting infected with COVID-19? Should I mix the brands of available vaccines?



With this post, I hope to address these questions and concerns. Please note that I intend to avoid any political arguments, and focus on the evidence shared by the Center of Disease Control (CDC) regarding these vaccines.

### ***Which COVID-19 vaccines are currently available?***

At this time, the COVID-19 vaccines marketed by Pfizer, Moderna, and Janssen are available in the United States. The vaccines by Pfizer and Moderna are still preferred by the CDC and the Food and Drug Administration (FDA). In early May 2022, the FDA announced the limitation of the Janssen vaccine to those 18 years of age or older for whom other authorized COVID-19 vaccines are not accessible or clinically appropriate. This is mainly due to increased risks of rare blood clots when compared with the other vaccines.

## ***What is the schedule for these vaccines?***

**For Pfizer:** 1st dose followed by 2nd dose three weeks later. First booster recommended at least five months after 2nd dose. Adults 50+ may receive a second booster at least four months after first booster.



**For Moderna:** 1st dose followed by 2nd dose four weeks later. First booster recommended at least five months after 2nd dose. Adults 50+ may receive a second booster at least four months after first booster.

**For Janssen:** If you received the Janssen vaccine for the first dose, you may still receive either Pfizer or Moderna for the first booster at least five months after the Janssen dose. Adults 50+ may receive a second booster at least four months after the first booster.

Here is a link to the CDC page that further explains staying up to date with COVID-19 vaccines: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/stay-up-to-date.html>

## ***What is considered immunocompromised?***

People with impaired immune systems are already at greater risk for general infections. Additionally, these patients are at greater risk of severe complications with COVID-19 infections. For immunocompromised patients, it is encouraged to receive a 3rd dose of either Pfizer or Moderna 4 weeks after receiving the 2nd dose. Here is what the CDC considered to be immunocompromised:

- Recipient of solid or bone marrow transplant
- Active treatment for solid tumor or blood malignancies
- Take immunosuppressive medications such as steroids
- Advanced or untreated HIV infection

*Please note: While having health conditions such as asthma, high blood pressure, diabetes, etc., **may** put you at higher risk of COVID-19 complications, these conditions are **not** considered immunocompromised regarding these vaccines.*

## ***Should I mix the different brands of vaccines for better protection?***

This is one of the most common questions I receive about the vaccines. The short answer is, it is up to you. Since there are some differences between the Pfizer and Moderna vaccines, it has been theorized that receiving both brands will provide better protection against COVID-19. The good news is that mixing the brands does not appear to significantly increase risks for the patient. However, I have not seen strong evidence that mixing these vaccines provides superior protection.

## ***Are the booster doses effective?***



Here is where the information can become confusing. Generally, vaccines are intended to *prevent* getting sick. Early use of the approved Pfizer and Moderna vaccines showed over 90% protection from the original COVID-19 virus. However, the virus has continued to change, while the vaccines have not. This has resulted in more vaccinated people testing positive for the virus. Here is a breakdown of the early results

of the fourth dose (second booster):

- The fourth dose shows protection against the virus 2 weeks after vaccination, with peak effect at 4 weeks. This resulted in about 50% reduction compared to patients having received 3 doses of the vaccine. However, this effect has dropped sharply by 8 weeks after vaccination.
- The rate of *severe* infection was about 2/3 lower in those receiving four doses compared to those receiving three doses.
- Between days 7 and 30 after fourth dose, relative reductions in COVID-related hospitalizations and death were about 70%

## ***What is Long-COVID?***

You may have heard the term "Long-COVID" and wondered what it actually means. In simplest terms, it refers to ongoing or returning health-related symptoms experienced at least 4 weeks after a person has been exposed to COVID-19. This can affect people who had severe symptoms while infected, or even those who had mild or no symptoms. These "long" symptoms may include shortness of breath, fatigue, dizziness, memory issues, and others. To the best of our knowledge,

these long symptoms occur due to damage caused by the virus to tissues of the body, as well as the viral effects on our immune systems.

### ***So what does this all mean?***

All of this means it is a combination of good news and bad news. The bad news is, the boosters do not appear to provide long-lasting protection against testing positive for the virus. The good news is, the boosters still appear to greatly reduce the risk of hospitalization and death related to COVID-19.

### ***So do I recommend the boosters?***

The short answer is yes. While I recognize that the booster shots are not perfect, they still offer more benefits than risks. Older adults (50+) and people who are considered immunocompromised are still at increased risk of severe COVID infection. Patients with hypertension, diabetes, and other conditions *may* be at increased risk of severe COVID infection. Therefore, I do recommend the booster vaccines, especially for those considered at increased risk. This would include people with chronic health conditions as well as those who may be exposed to COVID-19 more frequently due to their occupations or social habits.

As always, we encourage and welcome questions and discussions on this site. Additionally, if you have further questions about the services offered, contact [BetterMyMeds.com](http://BetterMyMeds.com) directly.

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## About Alan Tanabe

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