Three vaccines article

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When choosing a COVID-19 vaccine, there's no bad option

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[a closer look at the differences between mRNA and traditional]

Since a nurse in New York City received the first U.S COVID-19 vaccine dose, more than 74 million Americans have been fully vaccinated. If vaccine supply keeps pace with expectations, millions more Americans will not only receive a dose but have the option to choose which of the three FDA-emergency use authorized vaccines to receive.

The three vaccines authorized for emergency use by the U.S Food and Drug Administration (FDA) were developed by Pfizer-BioNTech, Moderna, and Johnson & Johnson (Janssen) respectively. While the COVID-19 vaccines share similarities and differences, when it comes to picking which dose to receive we want to remind our members: *there is no bad option*.

Johnson & Johnson vaccine is available again

The pause of the Johnson & Johnson vaccine was an immediate and proactive response to extremely rare side effects in an effort to ensure safety and avoid any further risk to the population. Since then, public health professionals and immunization experts have carefully reviewed available data, benefits of the vaccine against the virus, and risks before deciding to continue use of the Johnson & Johnson vaccine.

Administration of the Johnson & Johnson vaccine has resumed with appropriate communication of warnings for providers and recipients regarding the potential, rare blood-clot risks.

Governor Gavin Newson reaffirmed confidence in the vaccine, "After additional review, analysis and scrutiny, experts have concluded the Johnson & Johnson vaccine is safe, effective and will protect you against the COVID-19 virus. To date, about a million Californians have already received this vaccine – including myself and many of the state's top doctors. I encourage all Californians to trust the science, getting vaccinated is the best way to protect ourselves and our loved ones and end the pandemic."

The COVID-19 vaccines take a different approach

The goal of any vaccine is to teach the immune system to recognize a particular germ so, if the real virus enters the body the immune system knows to fend it off. Traditional vaccines use dead or weakened germs to trigger this kind of response. Two of the three COVID-19 vaccines currently available, Pfizer and Moderna, take a totally different approach by not containing any part of the coronavirus. Instead, they use a type of genetic material called messenger RNA or mRNA.

Pfizer-BioNTech and Moderna are mRNA vaccines. Generally, they work by delivering instructions to our cells to make proteins identical to a coronavirus spike protein. When the immune system sees these (harmless) spikes, it starts producing antibodies to fight them off. Now, if someone is exposed to the actual virus, the body will know exactly what to do to prevent serious illness.

The Johnson & Johnson vaccine is a viral vector vaccine. Viral vector vaccines use a modified version of a virus to deliver instructions to our cells. The Johnson & Johnson COVID-19 shot uses an adenovirus, a type of virus that causes the common cold. This "vector" has been changed so that it cannot replicate and make people sick.

Once the vector enters our cells, it starts churning out harmless spike proteins. The immune system detects them and gets to work making antibodies.

Doses, immunity, and efficacy

In clinical trials, the Johnson & Johnson vaccine was shown to be 85% effective in preventing severe disease in adults studied 28 days post-vaccination. A single-dose vaccine that doesn't require extremely cold refrigeration is helping fast-track efforts to reach mass vaccination goals while still offering strong protection against COVID-19. The Johnson & Johnson vaccine is one shot and people are considered fully protected two weeks after vaccination.

The Pfizer-BioNTech vaccine is administered in two shots, 21 days apart. The Moderna vaccine is also two shots, but 28 days apart. People are considered fully protected two weeks after the second dose of either of these vaccines. The Pfizer-BioNTech vaccine is 95% effective at preventing COVID-19, according to results from clinical trials. This vaccine works equally well in people of different ages (currently approved for ages 16 and up), genders, races, and ethnicities and is safe and effective for those with underlying medical conditions. The FDA is currently preparing to authorize the Pfizer vaccine for 12- to 15-year-olds, which is anticipated to happen very soon.

Moderna's vaccine was shown to be 94.1% effective at preventing COVID-19 during clinical trials, including the severe stage of the disease. Moderna's candidate was also found to be equally effective across diverse populations.

Another interesting difference to note is the side-effects experienced by women compared to men. The CDC shared in a report that of all the individuals who reported side-effects, 79% consisted of women. Factors such as a higher likelihood of reporting side-effects as well as a biological difference resulting in the production of more immune response proteins among women, might be key reasons for the noted difference.

Scientists are still learning how well the vaccines work against the new variants of COVID-19. According to the CDC, early data shows that the vaccines might work against some variants but could be less effective against others. Trials are underway with Moderna to test how a third booster shot stands up to variants. Only time will tell if the general population should receive regular boosters, similar to flu shots.

The bottom line

There are three available vaccines with three rates of effectiveness. It is easy to pit the numbers against one another, but experts agree we shouldn't. To accurately compare the effectiveness of vaccines, they need to be compared head-to-head in a single clinical trial, according to the FDA.

That did not happen with these vaccines. The trials were conducted in different regions at different points in time, and with different rates of infection. What is important to know is that all three help prevent infection, serious illness, and death.

Blue Shield continues to encourage members to get vaccinated and keep up the safety protocols that have now become part of our daily routine. Stay on top of the latest developments by visiting our News Center or sign up for email alerts here.