

COVID-19 Booster Shots: Mixing and Matching

The U.S. Food and Drug Administration (FDA) recently authorized emergency use of the Moderna COVID-19 Vaccine and the Pfizer-BioNTech COVID-19 Vaccine for the prevention of COVID-19 to include use in children down to six months of age. The Centers for Disease Control and Prevention (CDC) updated their guidelines just days after this announcement, now recommending everyone ages 6 months and older get vaccinated against COVID-19. The CDC adds to this new guidance that everyone five years of age and older should also get a COVID-19 booster, if eligible.

Last fall, the FDA authorized the use of heterologous (“mix and match”) booster doses for these vaccines. This means that individuals who meet the current booster shot guidelines are not only able to get a booster regardless of what vaccine they initially received, but they may even be able to choose which booster they get.

There are currently more than 190 million Americans fully vaccinated against COVID-19, which is nearly 60% of the total population. Nearly 105 million people have received one booster dose, and about 17 million people have received two. Although individuals who have not yet been vaccinated are at the highest risk for serious illness from COVID-19, those who were vaccinated more than six months ago, or those who fall into a [high-risk category](#), are also at an increased risk, as antibodies from their initial vaccine begin to wane.

So, what are antibodies and why are they helpful in protecting against viruses such as COVID-19?

Leena Hamadeh, PharmD, BCPS, Infectious Diseases Pharmacotherapist Coordinator, OSF HealthCare

“Antibodies are essentially proteins made by the body that can be made in two different ways: either by vaccination or by becoming infected, with COVID-19 for example. Antibodies are really important because once they are produced by the body, they can help you fight off infection. We know that with vaccination, there is longer lasting and potentially stronger immunity than in those individuals who are relying on being infected with COVID.” (:27)

The new guidelines state that even if a child has previously had COVID-19, they should still get vaccinated. The CDC adds that for children who have been infected with COVID-19, their next dose can be delayed three months from when symptoms started or, if they did not have symptoms, when they received a positive test.

Booster shots for vaccinations are more common than some people may realize. Historically, the protection from many diseases or viruses requires a booster, due to a vaccine’s waning efficacy over time. This includes hepatitis A, hepatitis B, influenza, varicella, pneumococcal, and polio. Both the MMR (measles-mumps-rubella) and Tdap (Tetanus, diphtheria, and pertussis) vaccines also require boosters to remain effective throughout a person’s lifetime. Getting a booster shot for the COVID-19 vaccine is no different – and Hamadeh adds that the goal of these boosters is to strengthen your immunity against the virus even more.

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“The question is, can we boost our antibodies? And this is where the idea of boosters comes in to bring those antibody levels to a higher degree, especially since they wane over time. Hopefully with this higher degree of the antibodies, we can be more protected against COVID and against variants that are even more infectious, such as Delta.” (:24)

A [study](#) published by the National Institutes of Health (NIH) on “mixing and matching” COVID-19 vaccines found that all of the combinations boosted antibody levels higher, increasing an individual’s immune response. The FDA has determined that the known and potential benefits of the use of a single “mix and match” booster dose outweigh the known and potential risks of their use in eligible populations. With the rise in COVID-19 variants and the weakening of antibodies in those who received the vaccine early on, experts are strongly recommending these booster shots.

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“We don’t know how long COVID is going to be around for. We know that immunity potentially wanes over time. And there are variants such as delta that can be more infectious. So the best way to really protect yourself is to look at the guidance, look at the data from the CDC and the FDA, and to certainly get vaccinated if you are not yet vaccinated. But if you are, you still want to continue to protect yourself so please get boosted if you are eligible.” (:30)

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“What we know about all the vaccines that are available – Johnson and Johnson, Moderna, as well as Pfizer – is that they are highly effective in protecting individuals against severe COVID illness and hospitalizations, which is really, really important at this time.” (:18)

Talk to your primary care provider if you are interested in learning more about COVID-19 vaccines and booster shots.