When to get a COVID-19 booster

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If you recently had COVID-19, you may be wondering if you should delay getting your booster. We asked James Moy, MD, an immunologist in the Department of Internal Medicine at RUSH who is studying the antibody levels and duration of the antibodies after COVID-19 vaccines and boosters, to offer some advice.

How long should I wait to get a booster if I just had COVID-19?

If you just had COVID-19, you might want to postpone your booster until late summer/early fall, or about three months after the infection, says Moy, who has been tracking COVID-19 antibody levels in more than 1,100 RUSH employees since the vaccines were first approved in late 2020.

"We have antibodies from the infection that last at least five or six months, so I think three months after infection is a good time to get a booster," Moy says.

If you are up to date on your vaccinations and have had a recent, breakthrough COVID-19 infection, you likely have "super immunity," also known as hybrid immunity, Moy says. Vaccination with subsequent infection confers high antibody levels, making you much less likely to get COVID-19 again. But because these antibodies don't stay elevated indefinitely, getting boosted three months after infection if you are eligible can help keep you protected.

Some people, like those 50 and older and those who are immunocompromised, are eligible to receive two boosters. The Centers for Disease Control and Prevention says it's OK to wait on that second booster if you had COVID-19 within the past three months. The CDC also says it's OK to wait if getting a second booster now would make you

less likely to get a booster down the road. This might be important if COVID-19 cases rise in the fall.

If you haven't had COVID-19 and are eligible for a booster, Moy says it's smart to get boosted now. The CDC recommends that people ages 12 and older get a booster. If you aren't sure what schedule is right for you, ask your doctor.

How well are the COVID-19 vaccines working in the real world?

Moy's research shows that vaccines are effective in "training" the body to create antibodies against the virus that causes COVID-19 but the effects don't last without boosters. "After two shots, people had good antibody levels, but three months later, they had already fallen by 60% to 70%. By nine months out—right before people were eligible for their first booster—antibodies dropped to about 10% of their original levels. But then when they got their booster, their antibodies jumped even higher than after their second shot," Moy says.

What happens to antibody levels after the second COVID-19 booster?

Moy believes it is too early to know the effects of second boosters here in the United States. But data from Israel, which offered boosters sooner than other countries, may provide some insights. "Researchers in Israel have found that the second booster brings antibody levels back up to the same level as the first booster but no higher," Moy says.

In a few months, researchers should also have more data on how long antibody levels stay high after the second booster, but Moy expects to see a familiar pattern. "There's going to be peaks and troughs," he says.

"You'll get a shot, and your antibodies will go up and then come back down. You'll get another shot, and your antibodies will go back up and then go back down."

Currently, the U.S. Food and Drug Administration and the CDC are not recommending using antibody levels to determine when people should get their next shot. One issue is that COVID-19 antibody tests, known as assays, are not standardized. That makes it difficult for clinicians to use them in practice, at least for now. But Moy hopes that data from RUSH and other centers around the country will help public health officials understand the risks associated with declining antibody levels and offer better insights on the best time to get boosted.

Do we know what antibody level is needed to protect against COVID-19?

"That's the million-dollar question," Moy says. Looking at data from vaccine manufacturers, one thing is clear: The higher the antibody level, the less likely you are to get infected. But there isn't a threshold level that means you won't get infected. "There's no such thing," he says, adding that even people with high antibody levels have some risk for infection.

Why doesn't the COVID-19 vaccine prevent COVID-19?

Wondering why you still got COVID-19 even though you were vaccinated (and possibly boosted)? Moy explains that making vaccines for respiratory viruses is extremely difficult, in large part because the viruses mutate so quickly.

Right now, the only other vaccine for a respiratory virus is influenza.

Vaccine makers have failed to make effective vaccines against rhinoviruses that cause the common cold and respiratory syncytial virus, also known as RSV.

Viruses that cause non-respiratory diseases like hepatitis B, hepatitis A and chickenpox don't mutate as quickly, so scientists can develop vaccines that provide sterilizing immunity—meaning that once you get vaccinated, you likely won't get infected again.

Like the yearly flu shot, the COVID-19 vaccine is a non-sterilizing vaccine. "That means the vaccine does not make you immune to infection, it just helps you avoid getting severe infections," Moy says.

Provided by Rush University Medical Center

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