

# 8 COVID-19 vaccine myths people need to stop believing

**HUFFPOST**

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January 14, 2021, 8:50 AM



Experts share COVID-19 vaccination myths that should be put to bed, once and for all. (Photo: Iryna Veklich via Getty Images)

The rapid development and approval of COVID-19 vaccines for use in the U.S. has been truly remarkable. Millions of Americans have already received at least one dose of the Pfizer/BioNTech or Moderna vaccines (two doses are required for both). And public health experts are working hard to improve distribution across the U.S.

One roadblock has been vaccine hesitancy and distrust. Polls suggest that anywhere between 50% and 70% of Americans plan to get fully vaccinated against COVID-19. That means many Americans are still on the fence.

HuffPost spoke with several experts about some of the biggest myths still circulating about the immunizations:

**Myth #1: COVID-19 vaccines were ‘rushed,’ so they could still be unsafe.**

The speed of the vaccines’ creation was pretty unprecedented, but that does not mean researchers skipped important steps.

“These vaccines were *not* ‘rushed’ through development,” said Linda Yancey, an infectious disease expert at Memorial Hermann Health System in Texas.

Instead, drug manufacturers and the government simply removed many of the bureaucratic inefficiencies that typically slow the process, she explained.

Also, drug manufacturers were able to basically drop everything else they were working on and put all of their scientists on this one task around the clock, Yancey added.

That said, “there are parts of vaccine development that you cannot rush. You cannot rush the safety trials, and that was why we waited, then they published those results in the summer,” Yancey said of those phase 1 and phase 2 trials.

“Then you cannot rush the efficacy trials, so that was what we were waiting on during the fall,” Yancey said, referring to the larger scale phase 3 trials. “And those went really, really well.”

Also, federal agencies like the Centers for Disease Control and Prevention and the Food and Drug Administration are continuing to monitor COVID-19 vaccine safety in real time as the vaccines are distributed — not because they are worried that they haven’t been sufficiently studied, but as a (standard!) added layer of protection.

**Myth #2: You can get COVID-19 from the vaccine.**

Neither of the vaccines that have been approved for use in the U.S. contain the live virus that causes COVID-19.

Which means it is simply not possible to get sick with COVID-19 as a result.

This is a persistent misconception that also follows other vaccines, like the flu shot. Many people feel unwell after getting vaccinated for the flu and believe they have the virus itself. But the flu vaccine is actually made from inactivated or “dead” viruses.

Likewise, it’s common to develop symptoms after getting vaccinated against COVID-19 that may seem similar to those infected individuals get, but they are not the same thing.

“You’re going to have a nice brisk immune response,” Yancey said. “So yes, your arm is going to hurt. Yes, you’re probably going to run some fevers and feel achey for a

few days. That is a good thing. That means you're getting a good immune uptake and you're going to get that high level of protection."

**Myth #3: The vaccines can change your DNA.**

The approved coronavirus vaccines use messenger RNA, or mRNA. This technology teaches the body's cells to make a harmless piece of the "spike protein" found on the surface of the SARS-CoV-2 virus. That triggers an immune response that produces antibodies, protecting against COVID-19 infection.

But mRNA vaccines don't interact with a person's DNA.

"One thing I hear that people are concerned about is that it's going to impact their DNA, and I can see why people would make a connection like that," said Nicole Iovine, chief epidemiology officer at University of Florida Health Shands Hospital. "But there are a number of reasons why that can't happen."

For one, our DNA is protected by a membrane that prevents things from passing through easily, she explained. "This messenger RNA just goes into the outer part of our cell, called the cytoplasm. And it doesn't enter into the nucleus, so it doesn't have access to our DNA."

Also, messenger RNA doesn't even stick around in our cells for very long, Iovine added.

**Myth #4: The COVID-19 vaccines cause infertility.**

The American College of Obstetricians and Gynecologists recommends that women who are pregnant or breastfeeding should get the COVID-19 vaccine, although there have not yet been trials done specifically in that population.

The same goes for women who are considering getting pregnant. Experts stress that there is absolutely *no* evidence that getting vaccinated causes infertility. That's a lie often spread by anti-vaccination activists about various vaccines, Yancey said.

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In fact, getting vaccinated against COVID-19 could be really important for moms and their babies.

“I think one of the things that isn't being talked about is the potential benefit to fetuses and babies,” said Linda Eckert, an obstetrician-gynecologist and infectious disease expert with UW Medicine in Washington. “There's antibodies that we anticipate will cross through the cord blood, to the baby, and offer some protection. And also that it should pass through breast milk and offer protection.”

Eckert added that the lack of trials on pregnant women and COVID-19 vaccination isn't a sign that researchers are necessarily concerned that they will be unsafe for that population. It's simply because such trials have long excluded expectant women.

“The lack of data is *not* an indication that we're worried about harms; the lack of data is an indication of systems and assumptions that are long-standing and that I hope are going to be reexamined,” she said.

**Myth #5: You don't have to get vaccinated if you've already had COVID-19.**

The CDC says that anyone who has had COVID-19 and recovered (and otherwise qualifies for vaccination) should be offered the vaccine — although the agency adds that reinfection is unlikely in the first 90 days, so it may make sense to wait a few months.

In part, that is because there are still a lot of questions about how long natural immunity lasts, as well as how robust it is. But the evidence shows the vaccines are very good at prompting a significant immune response.

“When you get the vaccine, because you’re just making the immune response to the part of the spike protein — which is the target for preventing infection — your immune response is entirely focused on responding to just that key part of the virus. So you get this really, really strong, really focused response against the right part,” Iovine said. “That’s why people who have had COVID infection should still benefit from the vaccine.”

**Myth #6: Once you’ve been vaccinated, you can no longer spread the virus.**

Both COVID-19 vaccines take time to be fully effective, because they require two doses spaced fairly far apart: 21 days between doses for the Pfizer vaccine and 28 days for Moderna’s. Even after the second booster shot, full immunity isn’t immediate. Trials measured the efficacy of the Pfizer vaccine at preventing symptomatic spread seven days after the second dose, and 14 days after the second dose of the Moderna vaccine.

So individuals who have already rolled up their sleeves need to take all the usual precautions in the meantime.

Furthermore, it's not yet clear whether the vaccines prevent individuals from spreading the virus to others. Right now, data only shows that they're very effective at preventing the person who has received both doses from developing serious symptoms. That means it's possible that a fully vaccinated person might be exposed to the coronavirus, become infected without any outward symptoms, and then pass the virus along.

Therefore, it is crucial that public health measures like mask-wearing, hand-washing and social distancing remain in place.

**Myth #7: Severe reactions to the COVID-19 vaccines are common.**

It's alarming to hear that individuals have had severe reactions to COVID-19 vaccination, but the percentage of people who have had those responses is low. In late December, the CDC said it was looking at about 21 cases of anaphylaxis (a life-threatening immune response) after more than 1.8 million doses of the Pfizer vaccine had been given out.

“At this point, to get a severe allergic reaction to this vaccine would be less than a 1-in-a-million chance,” Yancey said. “And compare that to a virus that if you get it, you have a 1 in 30 chance of dying and probably a 1 in 10 chance of lingering side effects for many months.”

More mild allergic responses are possible within four hours of getting the shot, the CDC says. And the agency urges anyone who has had allergic responses to other vaccines to talk to their doctor about what this means for COVID-19 vaccination. It

also states that everyone, regardless of their health background, should be monitored by their physician for at least 15 minutes after they receive a dose.

**Myth #8: You should wait until you can choose the exact type of vaccine you'd like.**

Iovine said she has been regularly fielding questions from patients who are wondering whether they should pick the Moderna vaccine over the Pfizer vaccine or vice versa.

But it's really a myth that there is any significant difference between the two at this point — or that people should wait for one over the other.

"We don't distinguish between them, because they seem to behave the same," Iovine said. "So whatever you're offered, you should absolutely get it."

*Experts are still learning about COVID-19. The information in this story is what was known or available as of publication, but guidance can change as scientists discover more about the virus. Please check the Centers for Disease Control and Prevention for the most updated recommendations.*