

How Long Does It Take to Become Immune After You Get the COVID Vaccine?

Here's What to Know



After a month of fits and starts, state and local governments across the U.S. are slowly ramping up distribution of COVID-19 vaccines. Health care workers and nursing home residents were the first to roll up their sleeves for a dose.

But as more people become eligible for a vaccine, there is still some confusion about how much protection it gives early on, as well as when people will be at peak immunity from COVID-19. Here, infectious disease clinical researcher Laurel Bristow clarifies the process.

How does each vaccine work?

The two approved vaccines in the U.S., from Pfizer and Moderna, are both mRNA vaccines, a new (but highly researched) type of vaccine that teaches the body's cells how to make a spike protein that will create an immune response to fight off the spike protein from a virus, in this case COVID-19. Both vaccines require two doses to be fully effective — in Pfizer's case, that second dose is given three weeks after the first, and for Moderna, it comes four weeks later.

Both doses are needed to reach peak immunity, Bristow says. "Your first dose trains your immune system to respond to the spike protein. And then the second dose is the booster to make sure that it can mount a really strong immune response, if the virus is introduced to the body," she says.

How much protection does each dose provide?

After one dose of either Pfizer or Moderna's vaccine, a person has around 50 percent immunity to COVID-19, and the second dose brings it up to about 95 percent.

Is each dose immediately effective?

Not quite — the body needs time to build up its response.

"Your immune system starts to kick in, but to really get to the peak efficacy that we all know as 95 percent, it's going to take two weeks after your second dose," Bristow says. That means that people who get the Pfizer vaccine can expect to be at 95 percent immunity five weeks after their first injection, and those with Moderna will reach that point six weeks later.

Can you still get COVID-19 after a first or second dose of a vaccine?

Yes, because "your protection doesn't happen immediately," she says. "It's going to take two doses in time to get to the 95 percent efficacy. And especially after the first dose, it's not going to happen immediately that you are then protected from symptomatic COVID."

That's why there are reports of people contracting COVID-19, even after getting their first dose of a vaccine. "It's been frustrating seeing those stories from a science communication standpoint, because those are happening within the first week of someone getting their first dose," Bristow says.

Can I stop wearing a mask and see friends and family again after I'm fully vaccinated?

Unfortunately, not yet.

"We need to keep wearing masks to protect the people around us," Bristow says. "There's still a question of if the vaccine stops transmission of COVID, or just stops people from getting symptomatic COVID. That's something that is being looked at right now, so we want to operate under the assumption, just out of pure safety, that vaccinated people could still get asymptomatic COVID and spread it to others."

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