

Vaccine Efficacy

Do the vaccines really work? I know people who developed COVID-19 after getting vaccinated.

With the Moderna and Pfizer vaccines, it takes about 2 weeks after getting your second dose for your body to build up full protection. That means for several weeks after the first dose, vaccine recipients have similar infection risk as those who are unvaccinated. With the single-dose Janssen / Johnson & Johnson COVID-19 vaccine, it also takes about 2 weeks after the final injection to have full protection.

The risk of getting sick from COVID-19 after that timeframe is very low, but it is still possible: The Pfizer COVID-19 vaccine is 95% effective in preventing COVID-19, and the Moderna COVID-19 vaccine is 94.1% effective in preventing the virus.

Vaccine Safety & Side Effects

What are potential vaccine side effects? Could it cause a mild case of COVID-19?

The COVID-19 vaccines do not contain any of the actual virus, so there's no chance that getting vaccinated can infect you or those around you (via vaccine "shedding") with COVID-19.

With any vaccinations, mild side effects are normal signs that your body is building protection. Side effects of the COVID-19 vaccine mirror those of other vaccines and can include fever, chills, headache, fatigue, joint pain and soreness/pain at the injection site. The symptoms may feel like a mild case of flu, but they should go away in a few days.

MYTH: I'm young (or I'm healthy), so I don't need to get vaccinated.

FACT: "Unless they want to get sick, everybody needs the vaccine," says Dr. Gordillo, who leads Sarasota Memorial's Infection Prevention and Control Unit. "We also need everyone vaccinated to end this pandemic. The faster we vaccinate the vast majority of the population, the faster we're going to return to normalcy."

Hispanic populations, about 30% of the deaths occur in those younger than 65.

MYTH: The vaccines don't really prevent COVID-19, so I'm not going to bother.

FACT: The COVID-19 vaccines have been shown to be very effective, in both clinical trials and in studies of those who've been vaccinated since the public rollout began.

The mRNA vaccines (Moderna and Pfizer) are 90% effective in preventing COVID-19 infections in real-life conditions, according to [a recently released federal study](#) of healthcare workers vaccinated outside of clinical trials.

MYTH: The vaccine may prevent pregnancy or harm an unborn baby.

FACT: There is currently no evidence that COVID-19 vaccination causes any problems with pregnancy, including the development of the placenta. In addition, there is no evidence that fertility problems are a side effect of any vaccine, including COVID-19 vaccines.

COVID-19 vaccines do not alter the recipients' DNA; as a result, they cannot cause any genetic changes to mom or the unborn baby.

MYTH: I might get COVID-19 from the vaccine.

FACT: You cannot get COVID from a vaccine.

MYTH: COVID-19 vaccines were developed too fast to be safe.

FACT: Both the Pfizer-BioNTech and Moderna COVID-19 vaccines are mRNA vaccines, which are not new. Scientists have been working on mRNA vaccines for decades for a variety of illnesses — SARS, MERS, Zika, Ebola, newer influenza vaccines and even some seasonal coronaviruses — and that thankfully, gave them a huge head start when it was time to work on COVID-19 vaccines.

The clinical trials for the authorized COVID-19 vaccines were all done with the same rigor applied to all vaccine trials, and the results were reviewed and approved by multiple independent advisory panels. Increased collaboration globally, use of new technology and more available funding meant that COVID-19 vaccine developers could work more quickly during the pandemic.

“They did not cut corners or miss any steps,” says Dr. Gordillo. “The extra resources and funding simply accelerated the process.”

MYTH: Possible long-term side effects are too risky since we don’t know what they are yet.

FACT: With any vaccine, side effects typically show up within 6 weeks after the injection. “Vaccines do not have delayed or long-term side effects,” Dr. Gordillo explains. “Vaccines have been studied over decades. Some, like the smallpox vaccine, are very, very old, and none of them have really had long-term side effects that are seen 10 or 20 years later.

“Conversely, we don’t know what the long-term effects of getting the virus are — and those are more likely to be problematic.”

MYTH: The current vaccines don’t protect against the COVID-19 variants.

FACT: “In South Africa, clinical trials with 2 vaccines — Johnson & Johnson and Novavax, which is not yet approved in the U.S. — have found both to be working very well against the South Africa variant, the most concerning variant,” he says.

As more people are vaccinated, Dr. Gordillo says, transmission of the virus will go down, which in turn will control mutations and reduce the chance of new variants.

MYTH: I have allergies, so it’s not worth the risk.

FACT: Severe allergic reaction (anaphylaxis) to the Pfizer-BioNTech and Moderna COVID-19 vaccines have been rare, averaging just 2 per 1 million vaccinations with the Moderna vaccine and 5 per 1 million vaccinations with the Pfizer vaccine. To put that in perspective, anaphylaxis to penicillin occurs in 1 in 25,000 recipients.

But if you have concerns, certainly talk to your doctor and plan to wait 30 minutes after getting your shots for observation.

If you are severely allergic to any of the vaccine’s ingredients, you should not be vaccinated. People with allergies to certain foods, insects, latex and other common allergens, however, can get a COVID-19 vaccine.

MYTH: The vaccines contain unsafe toxins and microchips.

FACT: COVID-19 vaccines contain none of these.

“Microchips are not injected into anyone. That is physically impossible,” says Dr. Gordillo.

Microchips are, however, located on the vaccine packaging so that pharmacists and physicians can track doses and ensure they’re not expired or counterfeit.

The vaccines' ingredient list includes mRNA (which is destroyed by the body in a day or two), cholesterol (in amounts much lower than is already consumed by people) and non-toxic fatty molecules.

MYTH: The vaccine will alter my DNA.

FACT: No, it won't.

"The current vaccines and those in the works are not going to alter your DNA," Dr. Gordillo says, noting that in both vaccine platforms, the messenger molecule is destroyed in a day or two.

The mRNA, lipids (fat bubble), salts and other stabilizing agents are routinely used in other medicines. The mRNA vaccines work in the cell's cytoplasm and never enter the cell nucleus, where the DNA, your genetic material, lives. It's broken down quickly once it enters the cell and delivers the needed vaccine "message" to the cell's machinery. The virus spike protein is also rapidly broken down once there is no longer any mRNA.

The adenovirus platform uses DNA to deliver the message, but does not alter the cell's DNA in any way.