



Addressing COVID-19 vaccine misconceptions and misinformation

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MINNESOTA
MEDICAL
ASSOCIATION

(SEPTEMBER 2021)

This compilation of some of the common COVID-19 vaccine questions and concerns you may be asked is designed to support you in your efforts to educate your patients, address their fears and concerns, and combat misinformation.

Do I need the vaccine if I've already had COVID-19?

Yes. People who have recovered from COVID-19 can get the infection again. Getting the vaccine reduces the likelihood of this happening. It's true that getting infected with COVID-19 provides some natural immunity after your infection has run its course. However, this natural immunity decreases over time. One [study](#) published by the CDC showed that those with previous infection who did not get a subsequent vaccination had a 2.3-fold increased risk of re-infection compared to those who did receive a COVID-19 vaccine. Studies to date indicate that the immunity provided by the COVID-19 vaccine lasts longer than the immunity acquired through infection. Furthermore, getting a

vaccine after already being infected with COVID-19 has been shown to greatly boost the immune response.

Will the vaccine give me COVID-19?

No. The vaccine trains your immune system to recognize and defend your body against COVID-19. It will not actually cause a COVID-19 infection. None of the vaccines contain live COVID-19 virus, only the genetic code for the spike protein.

Will the vaccine affect my fertility?

No. There is no evidence that COVID-19 vaccines affect female or male fertility. The American College of Obstetricians and Gynecologists has stated that COVID-19 vaccines are safe for people who are thinking about or trying to become pregnant. Studies of male sperm counts and semen quality have not demonstrated any concerns.

Should I avoid the vaccine while I'm pregnant and/or breastfeeding?

No. Data has shown that COVID-19 infection puts pregnant people at increased risk of severe complications and even death. The American College of Obstetricians and Gynecologists recommends that all pregnant individuals be vaccinated against COVID-19. Pregnant and recently pregnant people are more likely to get severely ill with COVID-19, compared with non-pregnant people. The vaccine cannot cause infection in mother or baby. Breast-feeding people who have received mRNA vaccines have antibodies in their breast milk which could help protect the infant. Those vaccinated in pregnancy develop antibodies which are present in cord blood, which may help protect the newborn.

I'm healthy and 99 percent of people who test positive for COVID-19 survive. Do I really need the vaccine?

Are you in that 99 percent or 1 percent? Truthfully, we can't always predict. The majority of people who test positive for COVID-19 do survive, but that's not the whole story. Even among previously healthy patients, long-term side effects in COVID-19 survivors can include chronic fatigue, mild to severe lung problems, cardiovascular problems, neuropathy, joint pain, chronic headaches, cognitive issues, depression, anxiety, loss of smell or taste, and other conditions. Even mild cases of COVID-19 have led to these COVID-19 "long-haul" symptoms. If you're not worried about complications for yourself, consider your family, friends, and co-workers. You don't know what underlying health conditions the people around you might have, and getting the vaccine will help you protect the people who are closest to you, and further prevents continued high-level transmission to others.

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Will the vaccine cause unknown long-term complications?

According to the CDC, vaccine monitoring — for any vaccine — has historically shown that side effects generally happen within minutes to six weeks of receiving any vaccine dose. For this reason, the FDA required each of the authorized COVID-19 vaccines to be studied for at least eight weeks after the final dose. Millions of people have received COVID-19 vaccines, and no long-term side effects have been detected. A large study published in *JAMA* has confirmed this (see next answer below).

Am I likely to experience severe side effects or die from getting the vaccine?

All vaccines and medications carry a small risk of adverse reactions. However, millions of people in the U.S. have safely received the COVID-19 vaccine under some of the most intense safety monitoring in U.S. history. No serious health effects have been linked to the Pfizer and Moderna COVID-19 vaccines, according to a [study](#) published in September 2021 in *JAMA*. The CDC and the FDA are currently monitoring reports that the Johnson & Johnson vaccine may increase the risk of developing thrombocytopenia syndrome or Guillain-Barre Syndrome. It's important to understand that these reported side effects are still incredibly rare. It's also important to note that reports of adverse events to the Vaccine Adverse Event Reporting System (VAERS) following vaccination, including deaths, do not necessarily mean that a vaccine caused a health problem. It simply means that a patient experienced an adverse health event within a certain timeframe after receiving a vaccine. Lastly, all data to date point to the immensely large benefits of preventing COVID-19 vs. the small risks (a few per million doses) of side effects.

Will the vaccine protect me against COVID-19 variants?

The currently available vaccines are highly effective against the current COVID-19 variants, especially in preventing serious illness, hospitalization, and death. As recently as Sept. 10, the CDC released a [report](#) reaffirming the effectiveness of all three vaccines against the Delta variant. Vaccinating as many people as possible now can also help prevent additional virus variants or mutations from forming.

People are still getting infected. Does this mean that the vaccine doesn't work?

The vaccines work very well. The dramatic drop in nursing home COVID-19 deaths illustrate how well they work. In July 2021, around 97 percent of people hospitalized in the U.S. due to COVID-19 symptoms were unvaccinated. While much less likely, people who have been vaccinated can still get COVID-19. As of early August 2021, 0.519 percent of those in Minnesota who have been vaccinated have experienced COVID-19 symptoms. People who are vaccinated, but become infected with COVID-19, are much less likely to experience severe symptoms, require hospitalization, die, or experience long-haul symptoms. The vaccine was created to stop the infection from causing severe illness and death, not necessarily to prevent a detectable infection. Of vaccinated Minnesotans who have needed to be hospitalized, the number goes down to 0.031 percent.

Will the mRNA vaccines alter my DNA?

The mRNA in the Pfizer and Moderna vaccines never enters the nucleus of the cell where your DNA is located. The mRNA causes your cells to make protein to stimulate the immune system, and then the mRNA quickly breaks down — without interacting with your DNA at all.

Weren't the vaccines rushed into development? Can we trust them?

Although the COVID-19 virus was new, it is part of a family of viruses, coronaviruses, that have been known and studied by scientists for decades. Also, the mRNA vaccine technology, found in the Pfizer and Moderna products, has been studied long before its use in the current pandemic. Another important reason the vaccines were available quickly is because the federal government invested in the manufacturing facilities before knowing if the vaccines would be approved. In the absence of a global pandemic, that would not have happened. Normally, vaccine manufacturers wait until after FDA approval to spend money on these facilities. The COVID-19 vaccines were put through rigorous clinical trials involving tens of thousands of volunteers. Because of how prevalent COVID-19 was, it only took a few months for the clinical trials to collect enough data to make a thorough evaluation of vaccine safety and effectiveness. The FDA, as well as an independent panel of vaccine experts, closely scrutinized the data from those trials and deemed the current vaccines in the U.S. safe and effective for emergency use. Similar independent panels in several other countries are in agreement. On Aug. 23, 2021, the FDA officially approved the Pfizer COVID-19 vaccine.

The pandemic will be over soon anyway, so I don't need to get the vaccine, right?

There is no indication that the pandemic will be over soon. Vaccines are not yet approved for children under age 12, and vaccination rates in many other countries lag behind the U.S. Life will not be "normal" again until we can control the spread of the virus and its variants. The best way to do that is to get all eligible Minnesotans vaccinated as soon as possible. While Minnesota has one of the higher vaccination rates in the U.S., only 71 percent of the eligible population (12+) have received at least one vaccine dose (67 percent are fully vaccinated). We need to raise that rate.

Adopted with permission from the Missouri State Medical Association and the Wisconsin Medical Society, September 2021.

Sources: Centers for Disease Control and Prevention, Mayo Clinic, Johns Hopkins University, Cleveland Clinic, Minnesota Department of Health