

COVID-19 VACCINE FAQ

What is an mRNA vaccine and how does it work?

An mRNA vaccine uses a piece of messenger RNA – a set of instructions that tells a cell to make a specific protein. For SARS-CoV-2, this is the spike protein that is found on the surface of the viral envelope. The mRNA used in the vaccine does not enter the cell's nucleus and consequently has no interaction with a cell's DNA. It is also not a full virus and cannot replicate itself. The mRNA is rapidly broken down by the cell once the instructions have been transmitted, so it does not cause mutations or cellular defects, and has not been associated with infertility.

Once the spike protein is made, it is put on the surface of the cell, where it is seen by the immune cells and causes them to become activated and respond. The result is the production of neutralizing antibodies. If a person who is immunized becomes infected with the virus, the neutralizing antibodies will bind to the virus and prevent it from entering cells and causing disease.

Can an mRNA vaccine cause COVID-19?

No. An mRNA vaccine is not a virus and can't cause disease. Because it activates the immune system, it can cause mild symptoms in some people (e.g., fatigue, achiness, fever). Based on data from the clinical trials, the most common reactions to the vaccine are pain at the injection site, fatigue, headache, and muscle aches. These symptoms are very common with other vaccines, including the flu shot, and are a sign that the body is responding to the vaccine.



When will a vaccine be available?

The FDA has authorized two mRNA vaccines for COVID-19. The Pfizer-BioNTech mRNA vaccine was authorized for individuals 16 years and older. The Moderna vaccine was authorized for individuals 18 years and older. Both vaccines were recommended by the CDC's Advisory Committee on Immunization Practices (ACIP). They will review additional vaccines when authorized by the FDA.

The first groups of people, health care workers and residents of long-term-care facilities began receiving vaccine doses at the end of December. The second phase of allocation will include front-line essential workers and individuals over 75 years of age. Remaining essential workers and those at increased risk of severe disease are next in line. Local health departments can provide more information regarding prioritized populations, and how and when to get the vaccine. Given the requirement for extreme cold to store the Pfizer-BioNTech vaccine, there will be limited sites able to administer the vaccine initially.

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THINGS YOU NEED TO KNOW NOW

1. The Pfizer-BioNTech and Moderna vaccines require two doses, spaced 3–4 weeks apart. Mild pain at the injection site, fatigue, headache, and muscle aches are common reactions.
2. The vaccines do not contain a live virus, so they can't cause COVID-19.
3. Health care workers and residents of long-term-care facilities will be the first groups to receive the vaccine.
4. Vaccines provide protection against COVID-19, but won't prevent infection. Those who are immunized may still be able to transmit the virus.
5. It's important to continue wearing a mask, wash hands and physically distance even after getting the vaccine.

What is the difference between the emergency use authorization and licensure (approval) by the FDA?

Emergency use authorization is a process by which the FDA can authorize use of a medication or vaccine with less data if the benefit of the vaccine has been shown to outweigh the risk. EUAs can be issued only during a declared emergency, such as the COVID-19 pandemic. Vaccines issued an EUA will continue to be studied and have additional safety monitoring and informed consent and education associated with them.

What are the differences between the two vaccines authorized by the FDA?

Both vaccines are mRNA vaccines that have a piece of mRNA specific for the SARS-CoV-2 spike protein. They have similar efficacy and safety profiles. The main differences between the two vaccines include the ages of individuals eligible to get the vaccines, the length of time between doses, the cold chain requirements for storage, and the preparation of the vaccine. A side by side comparison is below:

	Pfizer-BioNTech	Moderna
Ages eligible for vaccine	16 and older	18 and older
Length of time between doses	21 days	28 days
Storage requirements	-80 C; stable at 4 C for 5 days	-20 C; stable at 4 C for 30 days
Preparation of vaccine	Reconstitution of lyophilized powder—5 doses per vial	No dilution needed—10 doses per vial

Why should I get a vaccine?

The trial results for both vaccines showed >94% efficacy at preventing COVID-19. By getting vaccinated, you are reducing your risk of disease, hospitalization, severe complications, and even death. Getting vaccinated and reducing the risk of disease also helps prevent the health care system from being further overwhelmed.

What does it cost to get the vaccine?

Any COVID-19 vaccine will be available at no cost to individuals, and clinicians administering the vaccine will be able to be reimbursed for vaccine administration ([see guidance on coding and payment](#)).

How many doses are needed?

Both mRNA vaccines require two doses; the Pfizer-BioNTech vaccine should be given 21 days apart and the Moderna vaccine doses should be spaced 28 days apart to achieve an effective immune response. Recipients should get the second dose from the same manufacturer as their first dose. However, if they get a dose of a different vaccine, no additional doses are needed, and the series is considered complete.

What are the side effects of the vaccine?

Data from the clinical trials of both candidates indicate that the most common reactions were pain at the injection site, fatigue, headache, and muscle aches. These symptoms are commonly seen with other vaccines. A few people also reported fever and nausea. No serious side effects were seen in the data reported from the trials. However, the CDC and the FDA will monitor for any adverse events or side effects as the vaccines are distributed to the public.

There have been reports of a few cases of severe allergic reaction to the Pfizer-BioNTech vaccine. Individuals receiving the vaccine should be monitored for 15-30 minutes after injection.

The vaccines have not been associated with infertility or modifications to recipient DNA.

If you have concerns or questions about any side effects after receiving the vaccine, check with your family physician.

How long does immunity last?

It is not known how long immunity will last from the vaccine. In the clinical trials that have been conducted to date, the median length of follow-up was two months for vaccine recipients. It is also not known how long immunity from natural infection lasts; there are reports of waning antibody levels around three months after infection, and a few cases of reinfection have been reported. We do know that seasonal coronaviruses (a source for the common cold) do not induce a robust immune response, which leads to limited immunity to these viruses. It is likely that a vaccine will have a stronger and more lasting immune response, but data are limited and the research is ongoing.

Do I still need to wear a mask and physically distance if I have the vaccine?

Yes! While the vaccines provide protection against COVID-19 disease, they have not been shown to prevent infection, so people who are immunized may still be able to transmit the virus. Additionally, the greater than 94% efficacy in preventing disease was not observed until several weeks after the second dose of the vaccines. Everyone will still need to wear a mask and practice physical distancing until a large section of the population has developed immunity, which may not be until late 2021. Even then, more data will be needed to see how long immunity lasts. Additional rounds of immunizations may be needed.

If I am vaccinated against COVID-19, can I still spread the virus to others?

The vaccine trials conducted did not look at the vaccine's ability to prevent virus transmission. We do know the vaccine is very effective at preventing illness in those receiving the vaccine. Because there are not data demonstrating the ability of the vaccines to prevent viral transmission, it is important to continue to wear a mask and socially distance even after getting vaccinated.

Can I get the vaccine if I've already had COVID-19?

Yes, although there are not enough data currently to determine how prior infection with COVID-19 affects the efficacy of the vaccine. It is known that natural immunity to the virus wanes over time, so currently, under the EUA, individuals who have previously been infected are eligible for receiving the vaccine.

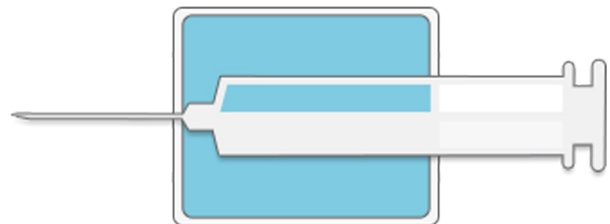
If more than one vaccine is available, would taking two different vaccines be less effective?

There have been no studies conducted looking at the effectiveness of the use of different vaccine products to complete the COVID-19 series. Current guidance states the same vaccine should be given for both dose one and two. If different vaccines are given, the recipient **does not** need to receive an additional vaccine.

Who can't get the vaccine?

Children and adolescents under age 16 are not eligible to receive the Pfizer-BioNTech vaccine. Those under age 19 are not eligible to receive the Moderna vaccine as there are not data on the safety and efficacy in this population. While pregnant or immunocompromised individuals were also not included in the first round of trials, patients who are pregnant, lactating, or immunocompromised are able to determine if they wish to receive the vaccine. These patients are encouraged to have a discussion on the potential benefits and risks with their family physician.

As with other vaccines, anyone who has a fever or other symptoms may not be able to get the vaccine until their symptoms resolve. This includes those who have symptoms or are positive for COVID-19. There is also caution for people with documented anaphylactic reactions to vaccines. Individuals with a known allergy to any of the vaccine components should not be immunized.



Can I get other vaccines, like the flu shot, at the same time as the COVID-19 vaccine?

No, you will need to wait two weeks after getting the COVID-19 vaccine before getting other immunizations.

How do I report symptoms after the vaccine?

As with other vaccines, vaccine recipients are encouraged to report side effects (called adverse events) to the [Vaccine Adverse Event Reporting System \(VAERS\)](#). This is a nationwide program that collects data to use as signals of unexpected events from a vaccine. If you have a question on what might be considered a side effect related to the vaccine, talk with your family physician.

Because any COVID-19 vaccine will be provided under EUA, clinicians will have additional reporting requirements outlined in the EUA fact sheet from the FDA. Each state and jurisdiction has plans in place for handling reporting.

In addition to VAERS, the CDC will implement a new, smartphone-based tool called **v-safe** that will send text messages to encourage reporting of adverse events or impacts to quality of life. This system will require the use of a smartphone, and recipients must opt into the system. Information on v-safe will be provided to anyone who gets the vaccine, along with a card indicating which vaccine and dose was given, and the EUA fact sheet.

If I have allergies, can I get the COVID-19 vaccine?

Yes! Seasonal allergies and even food allergies, including allergies to shellfish and peanuts, do not exclude you from getting the COVID-19 vaccine. Individuals who had severe reactions, like anaphylaxis, to injectable medication or vaccines in the past should not get the COVID-19 vaccine at this time.

Can I get the COVID-19 vaccine if I am pregnant or breastfeeding?

There has been no data on the use of EUA approved COVID-19 vaccines in pregnant or breastfeeding women. However, these individuals are not excluded from getting the vaccine and they should talk with their physician about the risks and benefits of being vaccinated.

Additional Resources

- AAFP COVID-19 vaccine webpage: www.aafp.org/covidvaccine
- Familydoctor.org vaccine article: <https://familydoctor.org/covid-19-vaccine/>
- CDC COVID-19 vaccine webpage: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>
- EUA fact sheet: <https://www.fda.gov/media/144413/download>
- Coding and payment resources:
 - a. COVID-19 Vaccine Coverage Requirements and Preliminary Payment Guidance: <https://www.aafp.org/dam/AAFP/documents/advocacy/prevention/vaccines/ES-COVIDVaccineCoveragePayment-121020.pdf>
 - b. First COVID-19 Vaccine CPT Codes Published: https://www.aafp.org/journals/fpm/blogs/gettingpaid/entry/covid_vaccine_codes.html

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3. U.S. Food and Drug Administration. Vaccines and Related Biological Products Advisory Committee Meeting, Dec. 10, 2020 FDA Briefing Document, Pfizer-BioNTech COVID-19 vaccine. <https://www.fda.gov/media/144245/download>. Accessed Dec. 10, 2020.
4. U.S. Food and Drug Administration. Vaccines and Related Biological Products Advisory Committee Meeting, Dec. 17, 2020 FDA Briefing Document, ModernaTX COVID-19 vaccine. <https://www.fda.gov/media/144434/download>. Accessed Dec. 17, 2020.