

What Are COVID-19 Vaccines?

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This fact sheet focuses on COVID-19 vaccines in the US.

COVID-19 is a serious infection that can have a range of symptoms, from very mild to severe. It has caused over 4.3 million deaths worldwide and over 600,000 deaths in the US since it was first identified in 2019. A number of COVID vaccines are now available that are safe and effective in helping prevent illness and limit spread of the virus. As of November 5, 2021, approximately 193.2 million people in the US are fully vaccinated (57.6%) with over 426 million doses given. Be sure to get vaccinated if you or your child are age 5 years or older. Encourage members of your family and anyone around you to get the COVID-19 vaccine to help protect you and them. If everybody who can get vaccinated does, we can greatly reduce virus transmission and prevent many severe illnesses in our communities. All of the US-authorized and approved vaccines have been found to provide high levels of protection in large clinical trials.



What vaccines have been approved for COVID-19?

In August, 2021, the COVID-19 vaccine made by Pfizer-BioNTech (brand name Comirnaty) received full approval by the US Federal Drug Administration (FDA) for use in people 16 and older. The Pfizer/BioNTech vaccine also has emergency use approval for 5-11 and 12-15 year olds. Two other vaccines (Moderna and Janssen (produced by Johnson & Johnson) are authorized for emergency use. Booster doses are also under emergency authorization for these vaccines in selected high risk groups of people. To learn more about how a vaccine is evaluated for use by the FDA go to <https://www.fda.gov/media/143890/download>.

Can I choose which vaccine to get?

Given worldwide demand, you may find you cannot choose which COVID-19 vaccine you can get. Do not delay getting yourself protected by waiting for a specific vaccine. You can now get any combination of vaccines available rather than all doses of a single brand.

When can I get vaccinated?

Every person 5 years and older in the US now has the opportunity to be vaccinated. Children 5 to 11 years are now able to be vaccinated with a lower dose of the Pfizer-BioNTech vaccine as the FDA has approved it based on safety and efficacy studies. Studies in children under 5 years of age are underway.

COVID-19 vaccine distribution is determined by state and local authorities with guidance from the CDC. To find where you can get a COVID-19 vaccine you can go to information for your state through the CDC website at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/How-Do-I-Get-a-COVID-19-Vaccine.html>

How will I know if a vaccine is safe and effective for me?

All vaccines go through a strict, thorough process before they are authorized for use. For information about this process, see <https://www.fda.gov/vaccines-blood-biologics/vaccines>. Vaccine clinical development was faster for the COVID 19 vaccines than usual. This was possible because a lot of past research helped

with their design, and massive financial resources allowed many development processes to be done at the same time rather than one after another, as would normally occur. There has been ongoing expert careful review of the science by both the FDA and independent scientists. The COVID-19 vaccines are not considered experimental. The data from all three U.S. approved COVID-19 vaccines show they are highly effective in preventing severe COVID-19, including in people with chronic diseases. While new variants of the virus continue to develop that are more contagious, the vaccines still provide good protection from severe disease. For more information on virus variants, see the ATS fact sheet at www.thoracic.org/patients.

There are no negative effects of receiving the COVID-19 vaccine if you are planning or become pregnant. Please check with your doctor for questions or advice.

Most people will tolerate the COVID-19 vaccines well. Side effects are described on page 2 "What are the side effects". Serious side effects are very rare. If you have questions, talk to your healthcare provider about benefits, possible risks, and any concerns you may have.

How much will a vaccine cost?

The cost of the COVID-19 vaccine is covered by the U.S. government. Most people will be able to get a COVID-19 vaccine without paying, including those who do not have health insurance. If you have questions about whether your insurance will cover any fee a vaccine site may charge for giving a COVID-19 vaccine, contact your insurance provider.

WHAT TO EXPECT WHEN GETTING VACCINATED

Do I need both shots to be fully vaccinated?

Currently, both the Pfizer/BioNTech (brand name Comirnaty) and Moderna vaccines require two shots separated by three to four weeks. It is important that you receive both shots (of the same vaccine) to fully benefit from the protection that the vaccine provides. The Johnson & Johnson/Janssen vaccine initially was approved as just one shot. It is now advised that you get a second 'booster'

dose as well.

The FDA has advised people with moderate to severe immune problems, 65 years and older, and those with high risk conditions or jobs such as healthcare workers get a booster dose of the mRNA vaccine. The booster should be 28 days or longer after the second dose. This would include people who have had transplant or on cancer treatment or have known immunodeficiency problems. Booster doses are for other people more than 6 months after the initial set of mRNA vaccines.

What are the possible side effects?

Although side effects from the different COVID-19 vaccines may vary, those commonly reported include pain where the shot is injected, fatigue (feeling tired), muscle aches, chills, and fever. These side effects usually go away within a few days and are a sign that your immune system is working. When you get the vaccine, you should be told about possible side effects and when to seek medical attention if you experience a bad reaction.

A few rare serious types of health problems have been reported by the CDC following COVID vaccines:

1. Severe allergic reaction (called 'anaphylaxis'). This can occur with any vaccine. It can be treated with medication. You are asked to stay 15-30 minutes after vaccine to be observed in case you have an allergic reaction. If you have had a severe allergic reaction in the past, talk to your healthcare provider.
2. Thrombosis with thrombocytopenia syndrome (TTS) is a condition with blood clots and low platelets. It has been reported in about 7 per 1 million women receiving the Johnson & Johnson/Janssen vaccine. Symptoms of this rare problem can occur up to 3 weeks after vaccine. If you have any of the following symptoms you should get immediate medical attention:
 - Shortness of breath
 - Chest pain
 - Leg swelling
 - Persistent abdominal pain
 - Severe or persistent headaches or blurred vision
 - Easy bruising or tiny blood spots under the skin beyond the site of the injection.

COVID-19 infection itself has a much higher rate of blood clots (about 165,000 per million people infected) as does smoking (almost 1800 per million smokers).

3. Myocarditis is an inflammation of the heart muscle, and pericarditis is an inflammation of the covering of the heart. These problems have been reported in a very small number of people who received mRNA vaccines. Most cases are seen in teens and young male adults and occur after the second dose. The inflammation can be treated. If you have chest pain or shortness of breath after the vaccine, seek medical attention. The CDC is actively looking into these and any reported concerns and gives regular updates. Learn more about the safety and possible side effects associated with these vaccines here: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety/adverse-events.html>.

There is growing information about longer term health problems from COVID-19 infection even in people who did not have initial severe illness. This is another reason to get vaccinated rather than risk infection, especially for people with high-risk conditions who are also at the greatest risk of dying from COVID-19.

WHAT TO EXPECT AFTER MY VACCINE

How long will I be protected after I get vaccinated?

The long-term protection from the COVID-19 vaccines is currently unknown. More data are being collected on people who have received the COVID-19 vaccines in clinical studies. Over time, we will gain a better understanding of long-term effects on the body's immune system and when booster doses may be needed.

Why do I still have to wear a mask, wash my hands, and keep physically distanced after I get my COVID-19 vaccine?

Everyone—even those who have received the COVID-19 vaccine, or those who have had COVID-19, should continue doing what they can to protect their health and the health of everyone around them: washing their hands, wearing a mask when appropriate, social distancing and avoiding crowds. People who have received the COVID-19 vaccine can still get the virus that causes COVID-19 and infect others, even if they themselves are not ill. To learn more, see the CDC's new guidance at <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html>.

With the more contagious delta variant spreading through the US it is critical to vaccinate as many people as possible to reduce spread, severe illness and death. COVID hospitalizations and deaths now mostly occur in unvaccinated people.

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Rx Action Steps

- ✓ Get COVID-19 vaccine as soon as you are able.
- ✓ If you get a vaccine that requires 2 doses, be sure to get both doses. Check the date of your last dose and see if you need to consider a booster dose.
- ✓ Continue to practice other measures to stay safe and protect others by wearing masks, social distancing, avoiding crowds, and washing hands often.
- ✓ Ask what you can do to manage any vaccine side effects.
- ✓ Ask others who you know to join you in getting this protection!

Healthcare Provider's Contact Number:

For More Information

American Thoracic Society

- <https://www.thoracic.org/patients/patient-resources/covid-19.php>
- <https://www.thoracic.org/vaccine-resource-center/covid-19-vaccination-materials/>

Centers for Disease Control and Prevention

- <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/index.html>

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