What Are COVID-19 Vaccines?

This fact sheet focuses on COVID-19 vaccines in the US. An international version will be published in the near future.

COVID-19 is a serious disease that can have a range of symptoms, from very mild to severe. It has caused over 2.5 million deaths worldwide and over 500,000 deaths in the US since it was first identified in 2019. To date, three vaccines have been developed and authorized for use in the US to help prevent COVID-19. These new vaccines will help prevent illness and may prevent spread of the virus. Additional vaccines are being developed and considered. Other public health measures such as social distancing, avoiding crowds, wearing face coverings, and hand washing still need to be done by everyone to help stop the spread of COVID-19.

This fact sheet provides people living with lung disease and their families the latest information on COVID-19 vaccines and will be updated regularly as new information becomes available.

What vaccines have been approved for COVID-19?

As of early May, 2021, there are three COVID-19 vaccines that have been authorized by the US Federal Drug Administration (FDA) for emergency use: Pfizer/BioNTech, Moderna and Janssen (produced by Johnson & Johnson). Additional vaccines may receive authorization in the future. 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, there is limited supply of the COVID-19 vaccines. 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. COVID-19 vaccines are safe and effective. All of the US-authorized vaccines have been found to provide high levels of protection in large clinical trials. Serious safety concerns have been rare and are being actively monitored by the FDA and Centers for Disease Control (CDC). For more information about the safety of COVID-19 vaccines and how well they work, go to https://www.vaccines.gov/basics/safety

When can I get vaccinated?

Every person 16 years and older in the US now has the opportunity to be vaccinated. If everybody who can get vaccinated, we can greatly reduce virus transmission and prevent many severe illnesses in our communities.

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/facts.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 than for other vaccines. 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 expert and careful review of the science by both the FDA and independent scientists. The COVID-19 vaccines are not considered experimental. The data from the Pfizer-BioNTech, Moderna, and Johnson & Johnson/ Janssen COVID-19 vaccines show they are highly effective in preventing severe COVID-19, including in people with chronic diseases. One billion people have now gotten these vaccines worldwide.

Most people will tolerate the COVID-19 vaccine 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. For more information on vaccines, go to https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html

I have lung disease. Can family members in my household also get the COVID-19 vaccine to keep me safe?

You should be sure to get your vaccine if you are able. Encourage members of your family to get the COVID-19 vaccine to help protect you and them. Children under the age of 12 years of age will need to wait to be vaccinated until studies are completed to ensure safety and efficacy. Only one vaccine currently is approved for 12 years and older. The others are approved for 18 years and older.

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 out of pocket, 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 (private/Medicare/Medicaid/other).
WHAT TO EXPECT WHEN GETTING VACCINATED

Do I need both shots to be fully vaccinated?  
Currently, both the Pfizer/BioNtech and Moderna vaccines require two shots separated by three to four weeks. Timing between the shots varies and should be reviewed with the staff at the vaccine center, clinic, pharmacy or office where you received your shot. 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 requires just one shot. This is currently the only authorized vaccine that requires only one shot.

Researchers are also studying whether booster shots may be needed in the future.

What are the side effects?  
Although side effects from the different COVID-19 vaccines 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.

The CDC reports there are two serious types of health problems 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 had any of the following symptoms after receiving the Janssen vaccine 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).

Learn more about precautions associated with these vaccines here: https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html.

There is growing information about longer term health problems from COVID-19 infection even in people who did not have initial severe illness. Therefore, getting vaccinated is considered to be a better option than risking infection, especially for people with high-risk conditions who are 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, since they are so new and the new coronavirus has only been infecting humans for about a year. 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 how it affects the body’s immune system.

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. The good news is that people who have gotten COVID-19 vaccines can socialize more safely with others in small groups. To learn more, see the CDC’s new guidance at https://www.cdc.gov/coronavirus/2019-ncov/vaccines/fully-vaccinated.html.

The goal now is to get as many people vaccinated as possible to reduce spread. Then we can see how much of a problem this virus continues to be and how safely we can all return to normal activities.

Authors: Tina V Hartert MD, MPH Marianna Sockrider MD, DrPH
Reviewers: Charles Dela Cruz MD, Jerry Krishnan MD, Justin Ortiz MD, Lynn K Fukushima RN, MSN

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.
✔ 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/vaccine-resource-center/covid-19-vaccination-materials/

Centers for Disease Control and Prevention

This information is a public service of the American Thoracic Society. The content is for educational purposes only. It should not be used as a substitute for the medical advice of one’s healthcare provider.