

The First Wave of COVID-19 Vaccines

COVID-19 is a highly contagious respiratory virus that has affected people around the world. Older adults and people with underlying medical conditions have higher risks for COVID-19 complications.

Many different COVID-19 vaccines are being developed. So far, the US Food and Drug Administration has granted an Emergency Use Authorization for the Pfizer-BioNTech and Moderna vaccines.

There are 2 vaccines available now. Others will come later. The Moderna COVID-19 vaccine is safe and effective for use in people age 18 and over. The Pfizer vaccine can be used in persons age 16 and older. Doctors, nurses, and scientists have collected data showing that the benefits of getting the vaccine are greater than the risks of getting sick with COVID-19.

Vaccines teach your body's immune system to fight the virus. Wearing masks and social distancing reduce your risk of getting sick from the virus. Masks and washing your hands also reduce your chances of giving the virus to someone else. The combination of wearing a mask, social distancing, frequent hand washing and getting a vaccine give you the best protection against COVID-19.

What is a vaccine?

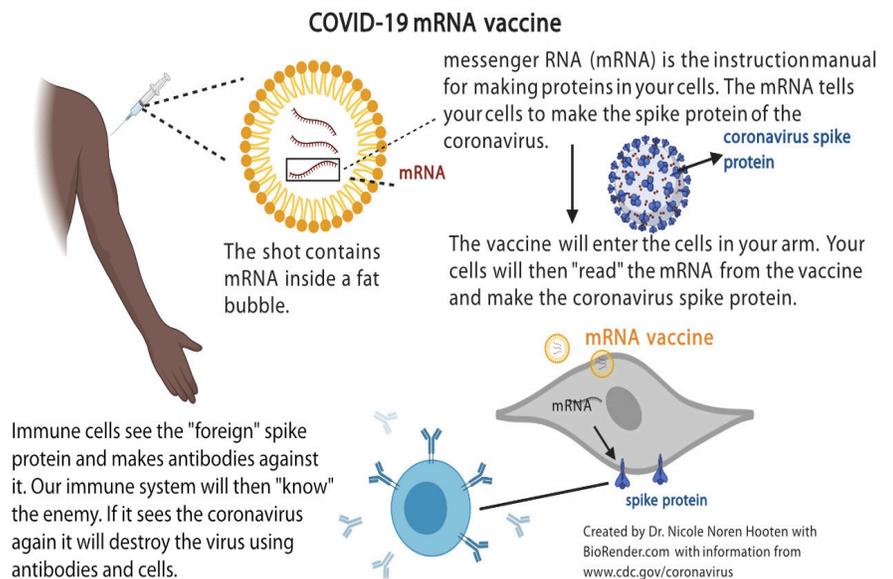
Scientists and doctors created vaccines to keep people from getting sick. Vaccines teach your body's immune system to recognize and fight viruses, including COVID-19. Vaccines are often given to people in doses, also known as shots.

COVID-19 vaccinations help our bodies develop immunity to the virus without having to get the illness. These vaccines work by creating "memory" cells that will remember how to fight the virus in the future.

Both Pfizer and Moderna vaccines are called "mRNA vaccines". They use a small bit of messenger RNA (mRNA), a nucleic acid in all cells, to help the body fight the virus.

These vaccines require 2 doses. Depending on which vaccine you get, the second dose will be 3-4 weeks after your first dose. It takes time for your body to build protection after a vaccination. A week or two after your second dose, you can expect the vaccine to offer the most protection from infection.

The other vaccines that will come in the future will work in different ways. To learn more about vaccines, watch the U.S. Department of Health and Human Services' video *How Vaccines are Developed* (https://www.youtube.com/watch?v=Z06JQhyZLUI&feature=emb_rel_end).



What is mRNA? Will an mRNA vaccine alter my DNA?

Messenger RNA (mRNA) is the instruction manual for making proteins in your cells. The COVID-19 mRNA vaccines have a mRNA fragment that makes the spike protein of the COVID-19 virus inside a fat bubble. When you get the shot, the fat bubble then enters your cells and gives your cells instructions to make the Corona virus spike protein. The mRNA vaccine never enters the part of the cell that contains your DNA (genetic material). Therefore, it will not interact or affect your DNA. After your cells "read" the mRNA, it will break it down and destroy the mRNA. Your immune

cells then “see” the spike protein because it is a “foreign” protein that these cells have never seen before. These cells will then attack it. Your immune cells can then recognize if you become infected with the COVID-19 virus and will fight it using antibodies and cells.

The mRNA vaccines can protect you from infection by the COVID-19 virus. To learn more about mRNA and mRNA vaccines, visit <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>.

Were the COVID-19 vaccines developed too quickly?

No, the COVID-19 vaccines were based on many years of research at the National Institutes of Health, other institutions around the world, and drug companies. This research began with other severe diseases caused by viruses like COVID-19 that happened in other countries. Operation Warp Speed is a well-funded effort to create safe and effective COVID-19 vaccines for all Americans. The goal was to provide enough funding to researchers so the vaccine could be developed and tested as soon as possible.

All vaccines must undergo many layers of study, review, and testing before they can be given to the public. COVID-19 vaccines have undergone rigorous clinical trials. These vaccines had the same review and testing procedures as all the other vaccines available to us today. No safety shortcuts were taken while developing the COVID-19 vaccine.

To learn more about Operation Warp Speed:

- Watch the following YouTube video compiled by the Department of Health and Human Services: <https://www.youtube.com/embed/3E1GOXsILRQ?rel=0>
- Visit <https://www.hhs.gov/coronavirus/explaining-operation-warp-speed/index.html>



Are COVID-19 vaccines safe?

All COVID-19 vaccines were tested in research studies involving many people. The vaccines meet safety standards and protect adults of different races, ethnicities, and ages. The mRNA vaccines are at least 90% effective in preventing COVID-19 infections.

Safety monitoring continues even after vaccines are approved. V-safe is a smartphone application for mak-

ing health checks after you are vaccinated. You can use v-safe to record side effects of the vaccine so healthcare professionals can follow-up with you. V-safe will also remind you to get your second vaccine dose.

To learn more about V-safe:

- Visit www.cdc.gov/vsafe
- Visit <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/safety.html>

Call 800-CDC-INFO (800-232-4636) TTY 888-232-6348 (available 24/7)

What if I do not trust vaccines in general?

It is understandable why many people do not trust vaccines. Many people think vaccines are ineffective or cause other problems in the body. Also, some people may feel a sense of mistrust when it comes to the medical or scientific community. The Moderna vaccine was developed by scientists at the company Moderna and by scientists at the National Institutes of Health here in Maryland. One of the scientists at NIH who developed this vaccine is an African American woman, Dr. Kizzmekia Corbett. She graduated from the University of Maryland, Baltimore County.

It is very likely that you have received vaccines before. Chickenpox, measles, mumps, rubella, shingles, whooping cough, and tetanus are examples of vaccines you may have had during your lifetime. These vaccines are safe and have saved people’s lives for decades.

Even Dr. Anthony Fauci, infectious disease expert and director of the National Institute of Allergy and Infectious Diseases, received a COVID-19 vaccination in December 2020. His vaccination was televised because he wanted to show his confidence in the safety of the vaccine. He also wanted to encourage others to get vaccinated. You have a far greater chance of being dangerously harmed by COVID-19 than a vaccination.

It is also important to make sure you are getting information about COVID-19 and vaccines from trustworthy sources. If people get information from an unreliable source, they can be easily misled. This leads to mistrust and doubt around getting vaccinated.

Who gets the vaccine?

The Centers for Disease Control and Prevention (CDC) recommend that healthcare personnel, front-line essential workers, and residents of nursing homes are offered the first supply of COVID-19 vaccines. Recently, the CDC expanded its recommendations to include everyone 65 and older, as well as any adult with

an underlying health condition that raises the risk for COVID-19 complications.

Did you know...

- 34% of HANDLS participants are 65+
- 24% of HANDLS participants have diabetes
- 65% of HANDLS participants have hypertension
- 50% of HANDLS participants are obese

Based on Wave 4 HANDLS data, 83% of HANDLS participants meet at least 1 of the criteria needed to get a COVID-19 vaccination at this time.

You are likely eligible for a COVID-19 vaccine now or very soon. Check with your local health department about when they will begin offering vaccines. In some areas, you may call 211. In Baltimore City, check <https://coronavirus.baltimorecity.gov/covid-19-vaccine-information>; in Baltimore County, check <https://www.baltimorecountymd.gov/covid-19/vaccines>. In other areas, search for *COVID vaccinations* in your browser.

Does the COVID-19 vaccine have side effects?

There are no serious safety concerns associated with COVID-19 vaccines. Common side effects include pain at the injection site, fever, fatigue, and chills. Symptoms can feel like the flu, but they will go away in a few days. Side effects are normal signs that your body is building protection against the virus.

I was already infected by COVID-19. Do I still need a vaccine?

Yes. There is a risk of re-infection after you have gotten COVID-19, and the best way to protect yourself is to get a vaccine. Experts do not know how long someone is protected from re-infection after they have recovered from COVID-19.

After you are infected with COVID-19, your immune system remembers how to protect your body against the disease for a short time. This is called natural immunity. The length of natural immunity varies from person to person. For long-term protec-

Help prevent the spread of COVID-19



- Wear a mask or face cover.
- Wash your hands.
- Keep your distance.
- Get the vaccine.

tion against illness and reinfection, a vaccination is needed.

Do I still need to wear a mask if I get a COVID-19 vaccine?

Yes, it is important to wear a mask even if you got a vaccine. After you receive your first dose of the vaccine, you need to keep wearing a mask because you still need a second dose to achieve full immunity. Also, you should keep wearing a mask during COVID-19 so you do not put others at risk. Many people cannot get a COVID-19 vaccine, such as babies and young children. We must do our part to protect everyone. Wearing a mask while social distancing is the best way to protect others, even if you have gotten the COVID-19 vaccine.

Where can I get a COVID-19 vaccine?

The vaccine will be offered by many different providers such as doctors' offices, retail pharmacies (CVS, Rite-Aid, etc.), and hospitals. More information is likely available on <https://covidlink.maryland.gov/content/faqs/>.

What should I expect during my vaccination appointments?

Please wear a mask to your vaccination appointments. You will need 2 appointments because there are 2 doses of the vaccine. You need both doses for the vaccine to work best. Each dose will be delivered through a needle injection into your upper arm. Your first dose of the vaccine will start building protection. A second dose is needed to build the most protection. Your second dose will be scheduled 3-4 weeks after your first dose. If you decide to use the V-safe app, it will remind you when it is time to get your second dose of the vaccine. Learn more at www.cdc.gov/vsafe.

Is the vaccine expensive?

No, the vaccines were purchased with taxpayer dollars and will be given to Americans at no cost. The vaccine will be free to you through your health insurance or through a government program (if you do not have health insurance).

Still have questions? Surgeon General Jerome Adams answers questions about COVID-19 vaccinations in this video: <https://www.youtube.com/watch?v=-K8OAdfoKoEM>.

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U.S DEPARTMENT OF HEALTH AND HUMAN SERVICES
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Newsletter for the HANDLS community

The purpose of this study is to learn about changes in health over time. Using our medical research vehicles, we want to study as many people with different backgrounds as we can. We want this study to help us understand healthy aging by examining the influences of different backgrounds on changes in health over time. The information we gather will help improve health and prevent disabilities. Our goal is to gather information to improve health and prevent disabilities for people of all backgrounds, particularly in minority communities and communities with limited resources.

For information about our study call 877-677-9538 or visit our website <https://handls.nih.gov>.