

# A TIMELINE OF VACCINE DEVELOPMENT

How the COVID-19 Vaccine was safely developed at record pace

## TYPICAL PROCESS



TOTAL TIMEFRAME  
**6+ YEARS**

## ACCELERATED PROCESS



TOTAL TIMEFRAME  
**12-18 MONTHS**

While the development of the COVID-19 vaccine happened at a record pace, no scientific or safety evaluations were skipped over. Rigorous clinical trials took place with tens of thousands of participants to ensure safety and efficacy. Additionally, the government pre-purchased vaccines and began manufacturing them before they were approved, ensuring a swift distribution process once the Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC) finished their rigorous evaluations of each vaccine.



# FAST FACTS ABOUT THE COVID-19 VACCINE

Get the facts about the COVID-19 vaccine

While the COVID-19 vaccine has been developed in record time, that doesn't mean corners were cut when it comes to safety. **It's important to know that all three phases of clinical trials are still being completed, and all of the same steps are being taken to examine the data from the clinical trials to help determine if each of these vaccines will be approved.**

Here are a few quick facts to get you up to speed on the vaccines:

- **Thousands of people** have already voluntarily tested several vaccines in clinical trials to ensure it's safe
- The data from those trials has been studied by **career scientists at the Food and Drug Administration (FDA) as well as a separate and independent advisory committee of medical and public health experts**
- The FDA will only grant emergency use authorization to each vaccine once it has determined that it is **safe and effective**. FDA scientists also look to ensure that the **benefits of the vaccine outweigh the risks**.
- Vaccines produced at scale are made in batches called lots. Each of those lots are tested for safety and potency.
- **Record amounts of public funding** are being poured into the developments of these vaccines, helping power the accelerated timeline.
- Many prominent and public figures in health and government have signaled that they will take the vaccine when it becomes available, including **former Presidents Bill Clinton, George W. Bush and Barack Obama as well as national vaccine expert Dr. Anthony Fauci and others**.

Information about this pandemic is changing often. Please visit [hackensackmeridianhealth.org/COVID19](https://hackensackmeridianhealth.org/COVID19) for the latest information.

# 5 QUESTIONS ABOUT COVID-19 VACCINES

Get the facts about the COVID-19 vaccine



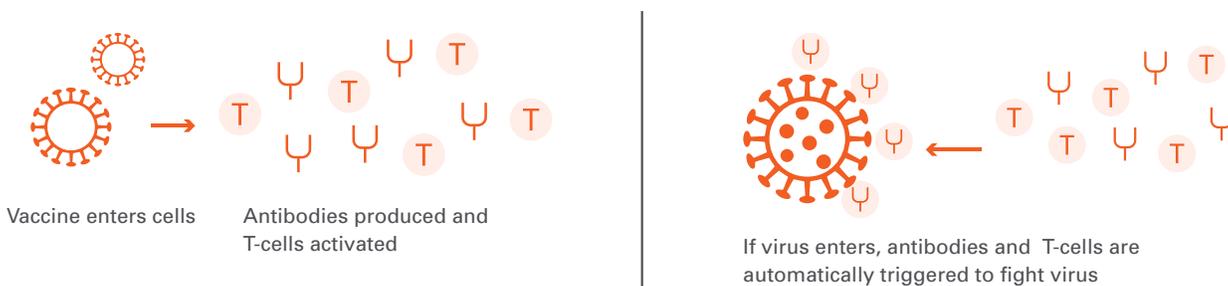
It's natural to feel confused and unsure about what to do once the vaccine is approved and available. Below are some of the most common questions and answers from our experts to help guide your decision about getting the vaccine once it's available.

## 1. HOW DO VACCINES WORK?

Your immune system acts like a response force within your body to combat germs. Once your body has successfully warded off the intruder, it develops antibodies that help protect you against those same germs in the future.

Vaccines generally work by helping your body develop immunity to a certain germ by mimicking an infection. The infection is usually not strong enough to make you sick, but enough that your body detects the signature of the germ and begins creating antibodies to protect you against future infection.

In addition to the COVID-19 vaccines under development that use live or inactivated virus, like traditional vaccines, a new type of vaccine has also been developed. The new type of vaccine is called a messenger RNA (mRNA) vaccine and it triggers our cells to develop a protein that, in turn, triggers an immune response within our bodies to produce antibodies. Once the antibodies are produced, they help prevent us from getting infected if we come in contact with the real virus. While the mRNA vaccines are new to market, the research behind them has been studied and worked on for decades.



## 2. WHEN WILL A VACCINE BE AVAILABLE IN AMERICA?

The COVID-19 vaccine is on track to be the fastest vaccine ever developed with this novel coronavirus first being discovered last year. Currently, the record for developing an entirely new vaccine is four years, for the Mumps vaccine.

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Incredible progress is taking place, and the vaccine is being delivered to the priority groups as guided by the CDC and New Jersey Department of Health. It's important to keep in mind that at first, we expect there to be a limited supply and that community members should wait to hear from local health networks or their physicians about when broad distribution will be available to them specifically.

There has also been record funding available across the public and private sectors for vaccine development through Operation Warp Speed, an initiative of the federal government. It's important to remember that there are several steps in place during vaccine development to help ensure a new vaccine is safe and effective when deployed to a larger population.

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### 3. SHOULD PREGNANT OR BREASTFEEDING WOMEN GET THE COVID-19 VACCINE?

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Although pregnant and breastfeeding women did not participate in the Pfizer-BioNTech COVID-19 vaccine clinical trials, the Food and Drug Administration (FDA) noted during emergency use authorization that these women may opt in for immunization, if they choose. Based on what we know about other vaccines and pregnancy, some experts suggest that this decision was made because **the virus itself likely poses a greater risk to pregnant women than the vaccine.** Also, there has generally been more concern about pregnancy and "live virus" vaccines. The Pfizer-BioNTech COVID-19 vaccine is not a live virus vaccine, it is an mRNA vaccine. According to the American College of Obstetricians and Gynecologists, it is expected that the safety of the vaccine in pregnant women would be similar to that observed in non-pregnant women. Historically, vaccines have been given to pregnant and breastfeeding women and have been deemed appropriate and safe to do so. If you are pregnant or breastfeeding, speak with your physician to determine what's best for you.

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### 4. WILL THE COVID-19 VACCINE BE MANDATORY?

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There are numerous legal and regulatory frameworks surrounding mandatory vaccination. The topic can even be controversial to some. However, it's important to know that vaccines only work if enough people get them.

While there are laws in place in many states around mandatory vaccinations for young children, it's not certain if any states would enact similar mandates for COVID-19 vaccines. In fact, the CDC advises that the COVID-19 will likely not be recommended for children at first. Employers often require employees to get flu vaccines annually to protect against influenza. They could make similar requirements, especially in health care and other essential jobs, although it is unclear at this time.

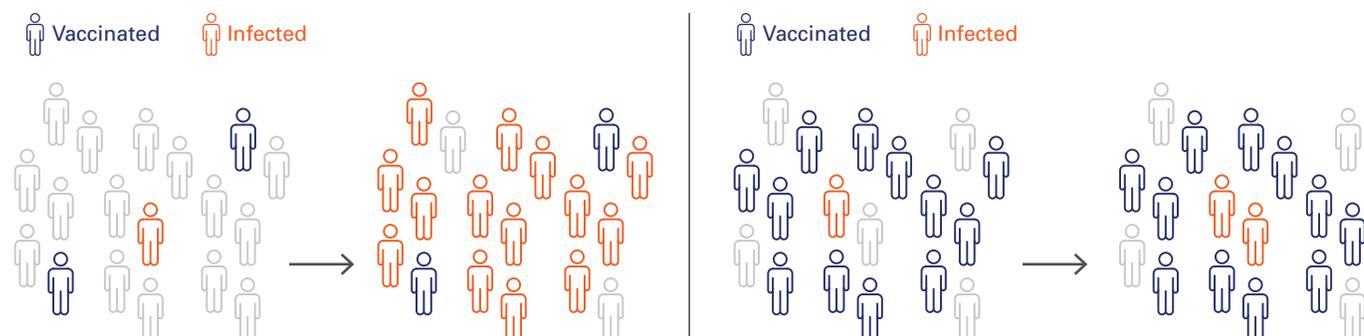
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### 5. WILL A VACCINE END THE PANDEMIC?

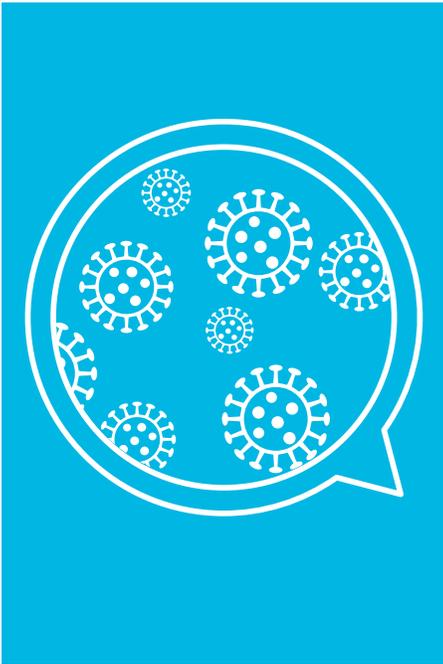
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The development of a vaccine is only the first step in helping end the pandemic. In order to put an end to the pandemic, we must also have wide distribution of the vaccine and show signs that it's working as expected.

Until widespread vaccination has occurred, we must also continue to follow social distancing and mask wearing guidelines to continue to curb the spread of COVID-19.



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# COMMON MYTHS ABOUT COVID-19 VACCINES EXPLAINED

Get the facts about the COVID-19 vaccine

With countries across the world beginning their COVID-19 vaccination plans, there's a lot of information to consider before signing up to get your first shot. For most people, it's a good idea to get the COVID-19 vaccine once it's available for widespread distribution, so you have some protection against this virus. For younger children, researchers are still working to understand the effectiveness and safety of the vaccine. As always when making a medical decision, you should talk to your doctor about the vaccine.

As the vaccine takes center stage, it's important to know the facts before making any decision. Let's take a look at what's TRUE and what's FALSE as it relates to COVID-19 vaccines:

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## **CLAIM: COVID-19 VACCINES WILL NOT GIVE YOU COVID-19**

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✓ **TRUE**

None of the COVID-19 vaccines currently in development in the U.S. use the live virus that causes COVID-19. Some vaccines use an inactivated virus or viral vector, while others use new mRNA technology. The goal for each of the vaccines in development is to teach our immune system to recognize and fight off the virus that causes COVID-19.

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## **CLAIM: YOU SHOULD GET VACCINATED EVEN IF YOU HAVE ALREADY HAD COVID-19**

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✓ **TRUE**

Because of the severe health risks associated with COVID-19 and that re-infection with COVID-19 is possible, you should consider getting a COVID-19 vaccine even if you've been sick with COVID-19 in the past.

As of late 2020, experts do not know how long someone is protected from getting sick again after recovering from COVID-19. The immunity someone gains from having an infection is called natural immunity. Some early studies suggest natural immunity may not last very long and varies from person to person based on their response to the virus.

If you've previously been infected, the FDA advised to wait until 90 days following your initial infection before receiving the vaccine.

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## CLAIM: EVERYONE THAT WANTS A VACCINE WILL BE ABLE TO GET ONE

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✓ **TRUE**

AND

✗ **FALSE**

While it's true that there will be a limited supply of the COVID-19 vaccine initially, everyone that wants a vaccine will be able to get one eventually. The CDC will make recommendations to individual states about how they should prioritize doses allocated to them.

At this time, health care workers, first responders and elderly people living in communal settings will be among the first to get the vaccine. From there, essential workers and those at risk for serious complications from COVID-19 would be next to get the shots followed by more of the general public.

While there will eventually be widespread availability, more information is needed before the vaccine becomes available for children.

You should also speak with your doctor if you are allergic to any component of the vaccine (rare) or if you think that you have a medical reason that may prohibit you from getting this vaccine.

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## CLAIM: RECEIVING AN MRNA VACCINE WILL ALTER YOUR DNA

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✗ **FALSE**

mRNA stands for messenger ribonucleic acid and can generally be described as instructions for your body on how to make a protein or even just a piece of a protein. mRNA is not able to alter or modify a person's genetic makeup or DNA. The mRNA from a COVID-19 vaccine never enter the nucleus of the cell, which is where our DNA are kept. Instead, COVID-19 vaccines that use mRNA work with the body's natural defenses to safely develop protection (immunity) to the disease.

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## CLAIM: THE VACCINE PROCESS IS MOVING TOO FAST

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✗ **FALSE**

In this unprecedented global pandemic, vaccine development is a race against the clock. Operation Warp Speed is a federal government initiative that was launched earlier this year designed to help scientists and funding come together to move vaccine candidates through the process for preclinical and clinical assessment, including animal and human trials.

This initiative along with the record amounts of funding and information sharing have enabled researchers to advance into phase 3 clinical trials (testing the vaccine on large groups of people to evaluate safety and effectiveness) in six months instead of the typical two years.

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## CLAIM: THE COVID-19 VACCINE WILL END THE PANDEMIC

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✗ **FALSE**

The development of a vaccine is only the first step in helping end the worldwide COVID-19 pandemic. In order to put an end to the pandemic, we must also have wide distribution of the vaccine and show signs that it's working as expected. Until then, we must all continue to do our part to reduce the spread of COVID-19 by continuing to wear masks in public, keeping at least 6 feet away from others not in your home, washing your hands as often as possible and staying home when you are ill.