

# Addressing Patients' COVID-19 Vaccine Questions: A Guide for Health Care Providers

Your recommendation is one of the strongest predictors of a patient getting vaccinated against COVID-19. Patients consider their health care provider to be one of the most trusted sources of information about vaccines.

Right now, keeping our communities safe from COVID-19 is one of our primary goals as health care providers. We acknowledge that Black, Latino, Indigenous and people of color in NYC have been disproportionately impacted by COVID-19 because of historic and ongoing systemic racism and oppression. As providers, we must commit to advancing equity and protecting and promoting the health of all patients.

This document outlines ways to support your patients in making informed decisions about the COVID-19 vaccines. The intention is to help you answer patients' questions, provide them with accurate information, and honor and respond to their needs.

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## How to use this document

There are three sections:

**Part 1: Start the conversation.** Ideas for open-ended questions and a focus on listening (Page 1).

**Part 2: Tips for responding to questions and concerns.** A brief orientation to common questions (Pages 2 to 5).

**Part 3: Suggested answers to common questions and concerns.** Detailed answers to the questions in Part 2 (Pages 5 to 18).

For up-to-date information on the COVID-19 vaccines, visit [nyc.gov/health/covidvaccineprovider](https://nyc.gov/health/covidvaccineprovider). You can also visit [nyc.gov/vaccinetalks](https://nyc.gov/vaccinetalks) for online resources and handouts to help you talk about COVID-19 vaccination with your staff and patients. Information for patients, including printable resources in various languages, can be found at [nyc.gov/covidvaccine](https://nyc.gov/covidvaccine) and [nyc.gov/vaccinefacts](https://nyc.gov/vaccinefacts). To receive periodic updates from the NYC Health Department via email, subscribe to our [Health Alert Network](#) and [City Health Information](#) mailing lists.



## Part 1: Start the conversation

Every patient visit or encounter is an opportunity to start or continue the discussion about COVID-19 vaccines. All providers, including primary care providers, dentists, physical therapists, urgent care providers, specialists, and healers, are trusted messengers.

The decision to be vaccinated is personal. Your goal is for each patient to have the information they need to make an informed decision. Patients desire health care interactions where their experiences are heard and validated, making it important to lead conversations with listening.

Try using open-ended questions to understand what each person thinks and feels about COVID-19 vaccination (see below for examples). Offer your strong recommendation but be clear that they have a choice:

- I highly recommend that everyone get the COVID-19 vaccine. I've been vaccinated. Have you been vaccinated yet?
- How are you feeling about the COVID-19 vaccines?
- Is there anything you want to know?
- What kinds of things are you hearing about the vaccines?
- Can you tell me what is worrying you?
- How can I support you in making your decision?



## Part 2: Tips for responding to questions and concerns

### Get comfortable with the idea that not everyone is eager to be vaccinated.

There are many reasons why someone might be unsure about getting vaccinated. Some people have concerns about vaccine safety. Some are waiting to see how others react to the vaccine. For people of color, there may be understandable distrust of the health care system due to long-standing structural inequities or personal experiences of racism. Listen when patients express concerns or reservations about the vaccines such as:

- I'm not going to take the vaccine.
  - I'm going to wait awhile.
  - I already had COVID-19.
  - My family does not want me to get vaccinated.
- ✓ **Do** ask your patient what questions or concerns they have and what you can do to support them in deciding about whether to get vaccinated. Be open to having an ongoing conversation over time.
- ✗ **Do not** try to pressure patients into accepting vaccination. Do not assume someone who declines the vaccine today has made a permanent decision.

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## Be ready to explain how COVID-19 vaccines work.

A person's baseline knowledge impacts what they need to know to make an informed decision. You can provide straightforward explanations that honor each person's level of knowledge and address what they want to know. Be prepared to answer some basic questions about how the vaccines work such as:

- What is a virus?
- What is the vaccine doing once it is in my body?
- What is mRNA?
- What is a viral vector?
- Can I catch COVID-19 from the vaccine?
- Is it possible to still get COVID-19 after being vaccinated?
- If the virus changes or mutates, will the vaccines still work?

✔ **Do** provide plain language answers. When possible, use familiar examples and comparisons. Reframe your explanations if patients seem lost or confused, and invite follow-up questions.

✘ **Do not** use medical jargon. Do not assume what anyone knows about viruses or how the vaccines work. Instead, check in with the person on what they know and do not know.

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## Support informed decisions.

For many people, saying that COVID-19 vaccines are safe does not provide reassurance. They want answers to specific questions, such as:

- How do we know these vaccines are safe?
- How do we know they will be safe in the long term?
- Who made the decision to authorize the vaccines?
- How could the vaccines be developed so quickly?
- Did they skip any steps?
- Who is monitoring for safety?

✔ **Do** invite specific questions. What concerns does this person have?

✘ **Do not** assume what questions a patient will have.

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## Respond to misinformation.

There are many rumors about the COVID-19 vaccines. Many of them are frightening. You can help dispel misinformation when you get questions such as:

- Will the vaccines change my DNA?
- Will the vaccines make me unable to have children?
- Do the vaccines contain fetal tissue?

- Do the vaccines contain a microchip?
- Are the vaccines activated by 5G?

✔ **Do** invite the patient to share anything concerning that they have heard. If they have heard incorrect information, explain why it is incorrect. Earn trust with accurate information.

✘ **Do not** dismiss their concerns. People may have heard the misinformation from friends, family, or media sources that they trust. There may be rational reasons why they believe some rumors.

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### Be realistic about side effects.

It is well known that the COVID-19 vaccines have side effects and, in rare cases, severe or dangerous reactions. Patients will likely have heard from friends and relatives who felt ill after being vaccinated. Provide honest answers to questions, such as these, about how the vaccines may affect them:

- Does everyone have side effects?
- How long should I expect side effects to last?
- Are side effects worse after the second shot?
- Does one type of vaccine have worse side effects than another?
- Has anyone had severe or dangerous side effects or reactions?
- Do the vaccines cause Bell's palsy or Guillain-Barré syndrome?
- Will the vaccines have long-term side effects?

✔ **Do** explain it is normal to have side effects and for side effects to differ from person to person. Be specific about what side effects they may have and how likely they are to occur.

✘ **Do not** simply say that the vaccines are safe or that side effects are mild. Many people have heard from friends and family who felt sick after getting vaccinated, so it may sound like you are being dismissive or not being honest.

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### Honor concerns about discrimination and distrust.

For communities of color, distrust in the health care system is a response to historic injustices and modern-day experiences of racism. Individuals may fear medical exploitation, unequal treatment or not having their concerns heard. Questions such as these can be an opportunity to honor and validate those concerns:

- Did the studies include people who look like me or come from my community?
- Are people getting a better or worse vaccine based on their race or ethnicity?
- If I get vaccinated, am I letting the pharmaceutical companies experiment on me?

✔ **Do** recognize that many people have good reason to be worried. Many people have experienced racism or discrimination personally, in the health care system and elsewhere.

✘ **Do not** assume what concerns people have based on how they look. Surveys and community feedback give us a general idea of what people may experience but can also lead to unintentional assumptions. Make sure to hear concerns on an individual level.

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## Appeal to positive emotions.

Even people who are not sure about getting vaccinated may have positive thoughts they want to weigh against uncertainty. Answering questions, such as these, is a good opportunity to reinforce the benefits of vaccination:

- Why should I get vaccinated?
  - Do I still have to wear a mask after I am vaccinated?
- ✔ **Do** ask your patient what they think might be good about getting vaccinated. For example, getting vaccinated will help protect them, their loved ones, and their community from COVID-19.
- ✘ **Do not** place judgement or shame on people who still have reservations about being vaccinated. Instead, address their concerns and invite them to return when they are ready.
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## Make getting vaccinated easy.

Difficulty making an appointment or finding a vaccination site can make people feel undervalued and disrespected, which may make them less likely to choose to get vaccinated. You can make it easier for your patients to navigate the system by knowing answers to common questions such as:

- How do I make a vaccine appointment? Are there sites where I do not need one?
  - What do I need to bring with me when I go to get vaccinated?
- ✔ **Do** provide information on how to get vaccinated, whether at your site or someplace else.
- ✘ **Do not** assume your patients already know how to set up a vaccine appointment.
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## Part 3: Suggested answers to common questions and concerns

### Get comfortable with the idea that not everyone is eager to be vaccinated.

Below are some options you could use to continue the conversation when patients have questions or say that they may not want to get vaccinated. In every case, invite them to reach out to you any time they have more questions or, if you offer vaccination, when they decide they want to get vaccinated.

#### **Q. I am not going to take the vaccine.**

**A.** What would it take for you to feel comfortable getting vaccinated? Do you have any questions about the vaccines? Is there information you want to have so you can make the best decision for yourself? Would you like to talk about what you can do to protect yourself right now and where getting vaccinated fits into that? I will probably ask you about vaccination again next time I see you in case you have new questions or are ready to think about it again.

#### **Q. I am going to wait a while.**

**A.** That can be a reasonable choice. I am worried, though, about the risk that you could get sick with COVID-19 in the meantime. Is there anything that would help you feel more confident about getting vaccinated? When do you think you will be ready to think about it again?

**Q. I already had COVID-19.**

**A.** I recommend you go ahead with vaccination even though you had COVID-19. There is a good chance you will have some protection against getting COVID-19 for a few months after being sick. However, we do not know how long that protection lasts, and people can get COVID-19 more than once. Getting vaccinated is recommended even if you had COVID-19 to help prevent you from getting it again. Also, the vaccines may help boost any natural protection you have.

**Q. My family does not want me to get vaccinated.**

**A.** What are your own thoughts? Are there questions I can answer for you? If you decide you want to get vaccinated, what might help your family feel more confident?

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**Be ready to explain how COVID-19 vaccines work.**

Below are some simple explanations for patients who are not familiar with how the vaccines work.

**Q. What is a virus?**

**A.** A virus is a germ that can make you sick. Viruses can infect our cells and make copies of themselves. They can damage or weaken our bodies in the process.

**Q. What is the vaccine doing once it is in my body?**

**A.** When a person recovers from the virus that causes COVID-19, their body has learned how to fight the virus. That can help keep the person from getting sick if they are exposed to the virus again. The vaccines help your body prepare to fight the virus without having to get sick first. The vaccines teach your body what the virus looks like so your immune system knows how to respond to it. Then, if the actual virus tries to infect your body, your immune system already knows what to do.

**Q. What is mRNA?**

**A.** mRNA is a type of genetic material. The “m” in mRNA stands for messenger. Our bodies make and use mRNA all the time. The mRNA we make naturally is a set of instructions for our cells that helps keep us alive. The Pfizer and Moderna mRNA vaccines deliver a specific set of instructions to help your body recognize and fight the virus that causes COVID-19. The instructions tell your body to make a tiny piece of the COVID-19 virus — a specific protein — which our immune systems can then learn to recognize and fight off. This protein cannot cause COVID-19.

**Q. What is a viral vector?**

**A.** Like the mRNA vaccines, a viral vector vaccine delivers instructions to help your body recognize and fight the virus that causes COVID-19. The instructions tell your body to make a tiny piece of the COVID-19 virus — a specific protein — which our immune systems can then learn to recognize and fight off. The protein cannot cause COVID-19.

A vector in this case means a tool to carry a message into a cell. This vaccine uses a special type of virus to carry the instructions into our bodies in the form of DNA. The virus in the vaccine is not the coronavirus. It cannot make you sick, and it cannot make copies of itself. All it does is deliver instructions, so your immune system is ready to fight COVID-19.

The virus used in the Johnson & Johnson vaccine is an adenovirus. An adenovirus causes the common cold, but the adenovirus used in the vaccine has been changed so it cannot make you sick or make copies of itself. It is used only as a tool to carry instructions.

**Q. *Can I catch COVID-19 from the vaccine?***

**A.** It is not possible to get COVID-19 from the vaccines, and the vaccines will not cause you to test positive for COVID-19. None of the authorized vaccines contain the virus that causes COVID-19.

**Q. *Is it possible to still get COVID-19 after being vaccinated?***

**A.** The vaccines prevent most people from getting sick with COVID-19, but their bigger value is in preventing severe illness, hospitalization and death. Even if you get sick, getting vaccinated can help reduce the severity of your illness and the chance you will need to be hospitalized. For example, the Pfizer and Moderna vaccines were about 95% effective in preventing symptomatic COVID-19 in clinical trials. This means that if 100 fully vaccinated people are exposed to COVID-19, we expect 95 of them will be protected and five will get sick. Of the five vaccinated people who get sick, they may be less likely to be hospitalized or die from COVID-19 compared to people who are not vaccinated and get COVID-19.

**Q. *If the virus changes or mutates, will the vaccines still work?***

**A.** It is normal for a virus to mutate (change) over time and for new variants to occur. Several variants of the virus that causes COVID-19 have been identified. Some of these variants seem to spread more easily and quickly than others and may cause more severe disease. This may lead to more COVID-19 cases, hospitalizations and deaths. The presence of these variants makes it even more important to get vaccinated.

As of early May, the vaccines are still expected to protect against the variants of concern that have been identified, though their protection may not be as strong against some variants. Scientists are working to learn more about these variants and how they affect vaccines.

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**Support informed decisions.**

Everyone deserves to have information about safety to inform their decision-making about getting vaccinated. Below is some background on vaccine safety monitoring and the approval process.

**Q. *How do we know the vaccines are safe?***

**A.** The vaccines were studied in large clinical trials. These trials involved testing the vaccines on tens of thousands of volunteers. The process was monitored closely by the U.S. Food and Drug Administration (FDA) and other organizations. Anyone who's interested can go to the [FDA](#) and [Centers for Disease Control and Prevention \(CDC\)](#) websites to learn more. The FDA has the results of the clinical trials and details about how the authorization process works. The CDC's [Advisory Committee on Immunization Practices webpage](#) has recordings of the meetings where experts decided to recommend the vaccines. Both agencies also have information designed for the general public.

To test the safety of the vaccines:

- The FDA reviewed clinical trial plans and protocols to make sure the procedures met the highest scientific and ethical standards.
- Clinical trials were closely monitored by data safety monitoring boards made up of outside experts (such as medical personnel, ethicists, statisticians and patient advocates), among other groups.
- FDA scientists and medical professionals evaluated all available information to determine if the vaccines should be authorized.
- Several federal agencies and organizations have continued to monitor the safety of the vaccines as they are used.

After each vaccine is authorized and goes into widespread use, there is an extensive monitoring system to watch for any problems. This system is what allowed the FDA and CDC to recognize and investigate a concern with the Johnson & Johnson vaccine. You can see materials from the meetings where this concern was discussed on the CDC's website if you search for "Advisory Committee on Immunization Practices."

**Q. How do we know the vaccines will be safe in the long term?**

**A.** If a vaccine is going to cause a problem, it will usually occur within a few days or weeks after you get vaccinated. The first few days are when people may experience normal side effects from the vaccines. Based on evidence from other vaccines that have been in use for decades, delayed reactions are unlikely and usually occur within two months of getting vaccinated.

Study volunteers in vaccine clinical trials must be monitored for at least two months before a vaccine manufacturer can apply for authorization. At least half of the volunteers need to be at least two months from getting fully vaccinated.<sup>1</sup> Study volunteers in clinical trials continue to be monitored even after a vaccine is authorized.

**Q. Who made the decision to authorize the vaccines?**

**A.** Scientists and doctors at the FDA made the decision to authorize the vaccines. The people involved are experts on vaccine development.<sup>2</sup> The Advisory Committee on Immunization Practices, a group made up of medical and public health experts, then advised the CDC to recommend use of the vaccines.<sup>3</sup>

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<sup>1</sup> Emergency Use Authorization for Vaccines Explained. Food and Drug Administration website. <https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained>. Published November 20, 2020. Accessed April 13, 2021.

<sup>2</sup> Emergency Use Authorization for Vaccines Explained. Food and Drug Administration website. <https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained>. Published November 20, 2020. Accessed April 13, 2021.

<sup>3</sup> Role of the ACIP in CDC's Vaccine Recommendations. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/acip/committee/role-vaccine-recommendations.html>. Updated July 14, 2020. Accessed April 19, 2021.

### **Q. How could the vaccines be developed so quickly?**

**A.** Development of the vaccines involved an unprecedented amount of resources to make the vaccines available as quickly as possible. Billions of dollars have been spent and hundreds of scientists from around the world have been working nonstop on developing vaccines. Scientists built on many years of research from other vaccines, including research on vaccines for other coronaviruses.

The federal government provided special funding so that development, testing and production of the vaccines could happen at the same time. This allowed companies to start manufacturing vaccines even before they were authorized for use. The federal government, state and local health departments, and health care providers worked for months on plans for storage, distribution, supplies and other logistics. The goal was to deliver and administer the vaccines as soon as they were authorized for use.

### **Q. Did they skip any steps?**

**A.** The studies followed the same steps as studies for any other vaccine. They did not skip any steps. The reason the vaccines were given Emergency Use Authorization (EUA) instead of FDA approval has to do with the need to get the vaccines to the public. An EUA allows a vaccine to be authorized after safety and efficacy standards are met, even if the planned end date for the studies has not yet been reached.

Like all vaccines, the COVID-19 vaccines were first studied in smaller studies to establish that there were no immediate safety concerns and they were likely to protect against COVID-19. Then, large studies were organized with tens of thousands of people to confirm the vaccines worked and to look further for safety concerns. The studies had to meet certain criteria showing that the vaccines worked. There also had to be at least two months of follow-up safety data for at least half of the people in those large studies before the FDA would consider authorization.<sup>4</sup> Even after a vaccine is authorized, safety monitoring continues.

There is an independent safety monitoring group, separate from the manufacturer, that reviews the data before the manufacturer applies for an EUA. As part of the FDA authorization process, there is also an advisory committee of independent public health and science experts who review the data and provide input to the FDA.<sup>5</sup>

It is expected that the manufacturers will apply for full licensure as soon as they can. This will likely require at least six months' worth of data.<sup>6</sup> Check the [FDA website](#) for the latest on vaccine approvals.

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<sup>4</sup> Emergency Use Authorization for Vaccines Explained. Food and Drug Administration website. <https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained>. Published November 20, 2020. Accessed April 13, 2021.

<sup>5</sup> Emergency Use Authorization for Vaccines Explained. Food and Drug Administration website. <https://www.fda.gov/vaccines-blood-biologics/vaccines/emergency-use-authorization-vaccines-explained>. Published November 20, 2020. Accessed April 13, 2021.

<sup>6</sup> U.S. Department of Health and Human Services, Food and Drug Administration, Center for Biologics Evaluation and Research. Development and Licensure of Vaccines to Prevent COVID-19: Guidance for Industry. <https://www.fda.gov/media/139638/download>. Published June 2020.

## **Q. Who is monitoring for safety?**

**A.** There are many systems for monitoring COVID-19 vaccine safety. This includes monitoring by the FDA, CDC, Medicare, the U.S. Department of Veterans Affairs, health care systems and international groups. Hundreds of millions of doses of COVID-19 vaccines have been given in the U.S.

Here is some background information on some of the monitoring systems:

- **Vaccine Adverse Event Reporting System (VAERS):** VAERS is managed by the FDA and CDC. Both providers and patients can report to VAERS. Providers are required by law to report serious problems after vaccination. They are encouraged to report any other problems that occur after a vaccine is given, even if the problem is not clearly connected to the vaccination. Scientists from the FDA and CDC then investigate to see if problems reported might be due to a vaccine. They also keep track of whether the problems reported are happening more often among vaccinated people compared to the general population.<sup>7</sup>
- **v-safe:** v-safe is a smartphone tool that invites people to report any side effects after getting a COVID-19 vaccine. The CDC monitors the reports to see if any unexpected problems are being reported.
- **Vaccine Safety Datalink (VSD):** VSD is a collaboration among nine health care organizations and the CDC's Immunization Safety Office.<sup>8</sup> The health care organizations share electronic health data about vaccines given and any medical problems diagnosed.
- **Sentinel Biologics Effectiveness and Safety (BEST) System:** The FDA actively looks for signs of safety problems, using data from health care claims databases and electronic health records from several large health care systems. The BEST system can also be used for in-depth analysis if any patterns appear from the other monitoring systems.<sup>9</sup>

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## **Respond to misinformation.**

Below are some explanations to help dispel rumors and respond to misinformation.

## **Q. Will the vaccines change my DNA?**

**A.** None of the COVID-19 vaccines will change your DNA. The genetic material in the Pfizer and Moderna vaccines never enters the nucleus of a cell, where our bodies' own genetic material is stored. mRNA breaks up and is destroyed by our bodies after our bodies have made use of it. The DNA in the Johnson & Johnson vaccine does not become part of a person's own DNA.<sup>10</sup>

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<sup>7</sup> Vaccine Adverse Event Reporting System (VAERS). Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccinesafety/ensuringsafety/monitoring/vaers/index.html>. Reviewed April 8, 2021. Accessed April 13, 2021.

<sup>8</sup> Shimabukuro T. COVID-19 vaccine safety update. Presentation at: Advisory Committee on Immunization Practices meeting; January, 2021. <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-01/06-COVID-Shimabukuro.pdf>.

<sup>9</sup> COVID-19 Vaccine Safety Surveillance. Food and Drug Administration website. <https://www.fda.gov/vaccines-blood-biologics/safety-availability-biologics/covid-19-vaccine-safety-surveillance>. Published February 9, 2021. Accessed April 13, 2021.

<sup>10</sup> Understanding Viral Vector COVID-19 Vaccines. Centers for Disease Control and Prevention website. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/viralvector.html>. Updated April 13, 2021. Accessed April 23, 2021.

**Q. Will the vaccines make me unable to have children?**

**A.** People who are trying to become pregnant now or plan on trying to become pregnant in the future can get vaccinated against COVID-19. There is no evidence that any vaccines, including the COVID-19 vaccines, cause fertility problems.

Misinformation has spread on the internet, and claims of infertility are based on a misunderstanding of the science. The COVID-19 vaccines — like many other vaccines — work by teaching our bodies to create antibodies to fight the virus. Concerns of infertility are based on the misconception that the antibodies developed after COVID-19 infection or vaccination will attack a protein in the placenta. However, the proteins on the virus that causes COVID-19 and the protein in the placenta are very different, and our immune systems are smart enough to tell the difference. There is no evidence these antibodies will cause any problems in pregnancy, including development of the placenta.

**Q. Do the vaccines contain fetal tissue?**

**A.** None of the vaccines contain fetal tissue.

A fetal cell line (cells that grow in a laboratory) is used to grow the adenovirus vector for the Johnson & Johnson vaccine.<sup>11</sup> The cell copies originated from an elective abortion performed decades ago that was not for the purpose of producing vaccines. No new fetal cells or tissue are being used or will need to be used. There are multiple steps to purify the vaccine so none of the cells are in the final product.

The Pfizer and Moderna vaccines do not require any fetal cell lines for production.

Many religious organizations have declared their support for their members to receive a COVID-19 vaccine. If you have concerns, you may want to speak with your own religious leadership for their perspective.

**Q. Do the vaccines contain a microchip?**

**A.** There is no microchip in any of the vaccines. This rumor seems to have started when Bill Gates, the former head of Microsoft, suggested that a computer network could help keep track of COVID-19 testing and vaccination.<sup>12</sup> He never suggested including a microchip in the vaccines. The Bill & Melinda Gates Foundation also sponsored a study looking into a sort of invisible tattoo that could show when a vaccine was given. This technology is not actually in use or available to be used in the COVID-19 vaccines.

**Q. Are the vaccines activated by 5G?**

**A.** There is no connection between any of the vaccines and 5G. Your body will respond to a COVID-19 vaccine all on its own. There is no need to “activate” any of the vaccines.

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<sup>11</sup> AdVac® and PER.C6® Technology of the Janssen COVID-19 Vaccine. Janssen MD website. <https://www.janssenmd.com/janssen-covid19-vaccine/product-properties/product-technology/advac-and-perc6-technology-of-the-janssen-covid19-vaccine>. Accessed April 25, 2021.

<sup>12</sup> Coronavirus: Bill Gates ‘microchip’ conspiracy theory and other vaccine claims fact-checked. BBC News website. <https://www.bbc.com/news/52847648>. May 30, 2020. Accessed April 25, 2021.

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## Be realistic about side effects.

Below are some answers to common questions about side effects and adverse reactions.

### **Q. Does everyone have side effects?**

**A.** Side effects are usually signs your body is building protection. It is very common to at least have soreness in the arm where you got the shot. Sometimes the pain is mild, and sometimes it is bad enough that you will want to take pain medicine. Some people get swelling or tenderness in the armpit on the side where they got the shot. You can take over-the-counter pain medication if you develop discomfort, as long as it is normally safe for you to take that medication. Do not take pain medication in advance, though, because we do not know if doing so might affect how well the vaccines work.

Many people will have one or more side effects, including headache, body aches, tiredness, nausea and fever. In the clinical trials, tiredness, headaches and muscle aches were the most common side effects for the authorized COVID-19 vaccines.<sup>13</sup> Many people feel well enough to keep up with work and other responsibilities. Some people feel really tired or sick. There is no way to predict who will have worse side effects, so, if you can, plan to take it easy a couple of days after you get vaccinated.

Side effects are less common in older adults (over about age 60), although many older adults will still have one or more side effects. With the vaccines that require two shots, side effects are more common after the second shot. Side effects may also be more intense after the second shot.<sup>14</sup>

In general, with various types of vaccines, it is common to have soreness at the site of the shot or other side effects. It is not surprising that the COVID-19 vaccines have some side effects, but they are a small risk compared to the risk of getting sick with COVID-19.

### **Q. How long should I expect side effects to last?**

**A.** Side effects usually start within the first three days after vaccination (the day after vaccination is the most common) and last for about one to two days after they begin.

### **Q. Are side effects worse after the second shot?**

**A.** With the vaccines that require two shots, side effects are more common after the second shot. The second shot of the vaccine increases the immune response that was developed after the first shot. For this reason, side effects may also be more intense. However, they still usually only last for one to two days.

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<sup>13</sup> Local Reactions, Systemic Reactions, Adverse Events, and Serious Adverse Events: Moderna COVID-19 Vaccine. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/covid-19/info-by-product/moderna/reactogenicity.html>. Last reviewed December 20, 2021. Accessed April 23, 2021; Local Reactions, Systemic Reactions, Adverse Events, and Serious Adverse Events: Janssen COVID-19 Vaccine. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/covid-19/info-by-product/janssen/reactogenicity.html>. Last reviewed February 26, 2021. Accessed April 23, 2021; Local Reactions, Systemic Reactions, Adverse Events, and Serious Adverse Events: Pfizer-BioNTech COVID-19 Vaccine. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/covid-19/info-by-product/pfizer/reactogenicity.html>. Last reviewed December 13, 2020. Accessed April 23, 2021.

<sup>14</sup> Answering Patients' Questions About COVID-19 Vaccine and Vaccination. Centers for Disease Control website. <https://www.cdc.gov/vaccines/covid-19/hcp/answering-questions.html>. Last reviewed April 5, 2021. Accessed April 21, 2021.

**Q. Does one type of vaccine have worse side effects than another?**

**A.** Side effects vary from one person to another. In the clinical trials for the Johnson & Johnson vaccine, about six out of ten recipients under age 60 and nearly half of older recipients reported at least one side effect other than or in addition to arm pain. A larger percentage of people in the clinical trials for the Pfizer and Moderna vaccines reported side effects, but it is difficult to directly compare the vaccines because they were not studied together. We cannot say for sure what any individual person can expect after getting vaccinated.

**Q. Has anyone had severe or dangerous side effects or reactions to the vaccines?**

**A. Note to providers:** Before administering a COVID-19 vaccine, please be sure to ask patients about their allergy history, including known allergies and any serious or immediate allergic reactions to a previous vaccine, vaccine component or other injectable medicine. For guidance on contraindications and precautions, see the CDC's [Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States webpage](#).

A small number of people have had anaphylaxis, a serious allergic reaction that requires emergency treatment. So far, reports of anaphylaxis are uncommon. For every one million people who receive the Pfizer or Moderna vaccines, fewer than five people experience a severe allergic reaction.<sup>15</sup> In the clinical trials for the Johnson & Johnson vaccine, severe allergic reactions were very uncommon as well. For comparison, the risk of getting hit by lightning in any given year is about two people per million.<sup>16</sup>

If someone has a bad allergic reaction, it will generally start within a few minutes to an hour of getting the shot. Signs of a severe allergic reaction can include difficulty breathing, swelling of their face and throat, fast heartbeat, a severe rash all over their body, dizziness and weakness. Patients will be observed after vaccination in case they develop a side effect that requires medical attention.

The national safety monitoring systems watch for signs of any other serious or severe side effects. If there is concern about a serious problem, use of the vaccine can be paused while safety is reevaluated.

This is what happened with the Johnson & Johnson vaccine. In April 2021, the CDC and FDA recommended use of the Johnson & Johnson vaccine be temporarily stopped following reports of a rare type of blood clot. Use of the vaccine was paused so additional information could be collected and reviewed.

The investigation showed that there were a small number of cases of a rare type of blood clot with low blood platelets out of approximately 8 million people who received the Johnson & Johnson vaccine since it was authorized. This condition is called thrombosis (blood clot) with thrombocytopenia (low blood platelet count) syndrome (TTS). After considering the data, on April 23 the CDC and FDA recommend that the Johnson & Johnson vaccine continue to be

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<sup>15</sup> Shimabukuro T, Cole M, Su JR. Reports of anaphylaxis After Receipt of mRNA COVID-19 vaccines in the US—December 4, 2020–January 18, 2021. *JAMA* 2021;325(11):1101-2; Gee J, Marquez P, Su J, et al. First Month of COVID-19 Vaccine Safety Monitoring — United States, December 14, 2020–January 13, 2021. *MMWR*. 2021;70(8):283-8.

<sup>16</sup> Natural Disasters and Severe Weather. Centers for Disease Control and Prevention website. <https://www.cdc.gov/disasters/lightning/victimdata.html>. Updated December 23, 2013. Accessed April 12, 2021.

offered to people age 18 and older. This decision was based in part on a recommendation by the Advisory Committee on Immunization Practices, an independent group of medical and public health experts, who reviewed the available data and information and weighed the potential health risks of getting the vaccine against the benefits.

Though the risk of TTS is very low, people who are considering the Johnson & Johnson vaccine should be told about the risk and what symptoms to look out for, and providers now have information about how to diagnose and treat TTS. Safety monitoring is continuing and there may be new updates. You can find current CDC guidance regarding the Johnson & Johnson vaccine on their webpage: [Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States](#).

**Q. Do the vaccines cause Bell's palsy or Guillain-Barré syndrome?**

**A.** There have been no reported cases of Guillain-Barré syndrome following vaccination among participants in the Pfizer or Moderna vaccine clinical trials. In the Johnson & Johnson vaccine clinical trials, one recipient had Guillain-Barré, but one person who did not receive the vaccine also had Guillain Barré.<sup>17</sup> Since one case happened in each group, it's possible that it's just a coincidence that these cases occurred during the study. (In the vaccine clinical trials, some people received vaccine and some received a shot without any vaccine, called a placebo.) People who previously have had Guillain-Barré syndrome can be vaccinated.

Out of the tens of thousands of people who received one of the three authorized vaccines during the clinical trials, a few developed Bell's palsy (facial paralysis). However, the rate of Bell's palsy seen during the clinical trials was not above the rate expected in the general population. People who previously have had Bell's palsy can be vaccinated.

**Q. Will the vaccines have long-term side effects?**

**A.** Based on the clinical trials and use of the vaccines so far, long-term side effects seem to be unlikely.

Usually any serious side effects will appear within the first two months after receiving a vaccine, which is why the vaccines could not be authorized until many of the study volunteers were monitored for at least two months. The participants continue to be monitored after the vaccines are authorized, so we have data from an even longer period. Also, since the Pfizer and Moderna vaccines started to be used in mid-December 2020, there are millions of vaccine recipients (and counting) that received the vaccines more than two months ago.<sup>18</sup> The Johnson & Johnson vaccine started to be used in late February, so there are more and more people who are at least two months out from receiving that vaccine, too. In short, we have a growing body of data and so far no long-term effects have been identified.

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<sup>17</sup> Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States. Centers for Disease Control and Prevention website. <https://www.cdc.gov/vaccines/covid-19/info-by-product/clinical-considerations.html>. Updated April 16, 2021. Accessed April 24, 2021.

<sup>18</sup> Trends in Number of COVID-19 Vaccinations in the US. Centers for Disease Control and Prevention website. <https://covid.cdc.gov/covid-data-tracker/#vaccination-trends>. Accessed April 12, 2021.

## Honor concerns about discrimination and distrust.

Patients may have well-founded concerns about discrimination and racism. Below are some suggestions to help respond to these concerns.

### **Q. Did the studies include people who look like me or come from my community?**

**A.** The authorized vaccines each included more than 30,000 participants in the largest phase of the clinical trials, called phase 3. All of the phase 3 clinical trials included study volunteers from across age and racial and ethnic groups. The vaccines were found to be effective for all groups.

Here are some additional details to share with patients:

	Pfizer <sup>19*</sup>	Moderna <sup>20*</sup>	Johnson & Johnson <sup>21*</sup>	U.S. population <sup>22†</sup>
<b>White</b>	81.9%	79.4%	62.1%	76.3%
<b>Black</b>	9.8%	9.7%	17.2%	13.4%
<b>Asian</b>	4.4%	4.7%	3.5%	5.9%
<b>American Indian or Alaska Native</b>	0.6%	0.8%	8.3%	1.3%
<b>Native Hawaiian or other Pacific Islander</b>	0.2%	0.2%	0.3%	0.2%
<b>Hispanic/Latino</b>	26.2%	20.0%	45.1%	18.5%
<b>Age 65 or older</b>	21.4%	25.3%	19.6%	16.5%
<b>Female</b>	49.4%	47.4%	44.5%	50.8%

\*Studies also included a small percentage of people reporting more than one race or other race.

†Categories do not include people reporting more than one race, which was 2.8%.

<sup>19</sup> Pfizer-BioNTech COVID-19 Vaccine Overview and Safety. Centers for Disease Control and Prevention website. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Pfizer-BioNTech.html>. Updated April 16, 2021. Accessed April 23, 2021; Food and Drug Administration. FDA Briefing Document: Pfizer-BioNTech COVID-19 Vaccine. <https://www.fda.gov/media/144245/download>. Published December 10, 2020.

<sup>20</sup> Moderna COVID-19 Vaccine Overview and Safety. Centers for Disease Control and Prevention website. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/Moderna.html>. Updated April 5, 2021. Accessed April 23, 2021; Food and Drug Administration. FDA Briefing Document: Moderna COVID-19 Vaccine. Vaccines and Related Biological Products Advisory Committee December 17, 2020 Meeting Briefing Document - FDA. <https://www.fda.gov/media/144434/download>. Published December 17, 2020.

<sup>21</sup> Johnson & Johnson's Janssen COVID-19 Vaccine Overview and Safety. cdc.gov. <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/janssen.html>. Updated April 13, 2021. Accessed April 23, 2021; Food and Drug Administration. FDA Briefing Document: Janssen Ad26.COVID-19 Vaccine for the Prevention of COVID-19. <https://www.fda.gov/media/146217/download>. Published February 26, 2021.

<sup>22</sup> U.S. Census Bureau. QuickFacts: United States. <https://www.census.gov/quickfacts/fact/table/US/PST045219>. Accessed April 12, 2021.

**Q. Are people getting a better or worse vaccine based on their race or ethnicity?**

**A.** There is only one version of each brand of vaccine. Everyone who gets that brand of vaccine gets the same vaccine. All of the authorized vaccines are safe and effective at preventing serious complications of COVID-19.

**Q. If I get the vaccine, am I letting the pharmaceutical companies experiment on me?**

**A.** Tens of thousands of people of different races and ethnicities volunteered to be part of the studies on the vaccines. Since the vaccines have been authorized for use, more than 200 million doses of the vaccines have been given in the U.S. Safety monitoring continues for the general population even after vaccines are authorized for use.

Safety monitoring is a normal part of the process for all vaccines and prescription medications and benefits everybody.<sup>23</sup> When a vaccine or medicine goes into widespread use, it is possible to see rare side effects that did not appear during the studies. Safety monitoring allows the FDA and CDC to recognize if that happens and act on it quickly.

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**Appeal to positive emotions.**

Below are some ideas on why people may want to choose to be vaccinated.

**Q. Why should I get vaccinated?**

**A.** All the vaccines do a very good job of protecting people from severe COVID-19 illness, hospitalization and death. The vaccines also reduce the risk of people spreading COVID-19. Getting vaccinated is much safer than getting sick with COVID-19.

Once you are vaccinated, you will be able to do more activities without needing to take as many precautions. The more people who are vaccinated, the more likely we can have events and gatherings again, keep restaurants and movie theaters open, spend time with friends and loved ones, and get back to normal. There will be more room at our hospitals to take care of other needs. Schools will not have to close for quarantine because someone was sick.

Vaccination has a long history of helping reduce disease. In the late 1940s and early 1950s, the polio virus caused thousands of cases of paralysis every year. There were also thousands of deaths from polio during that time. People exposed to polio had to go into quarantine, just like we do with COVID-19 today. After a vaccine was made available, cases decreased. By the late 1970s, polio was no longer spreading in the U.S.<sup>24</sup> Today, many Americans do not even know what polio is.

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<sup>23</sup> Postmarketing Surveillance Programs. Food and Drug Administration. <https://www.fda.gov/drugs/surveillance/postmarketing-surveillance-programs>. Published April 2, 2020. Accessed April 21, 2021.

<sup>24</sup> Polio Elimination in the United States. Centers for Disease Control and Prevention website. <https://www.cdc.gov/polio/what-is-polio/polio-us.html>. Updated October 25, 2019. Accessed April 12, 2021; Achievements in Public Health, 1900-1999: Impact of Vaccines Universally Recommended for Children -- United States, 1990-1998. MMWR. 1999;48(12):243-8. <https://www.cdc.gov/mmwr/preview/mmwrhtml/00056803.htm>. Accessed April 12, 2021.

**Q. Do I still have to wear a mask and take other precautions after I am vaccinated?**

**A.** When you are fully vaccinated, all activities become safer. Fully vaccinated means two weeks after your single-dose vaccine or second dose of a two-dose vaccine. Once fully vaccinated, you can do most activities without wearing a face covering or physical distancing. Outdoor activities are particularly safe. The NYC Health Department’s advice is to keep your face covering on indoors until even more people are vaccinated. Also, you must follow the face covering requirements of the place that you go, such as a business, school, public transportation or your workplace.

Once fully vaccinated, you do not need to get tested, unless you have COVID-19 symptoms or are required to do so for work, school, or another reason. You also don’t need to quarantine following an exposure to someone with COVID-19 (though if you develop symptoms you should isolate and get tested).

**Note to providers:** If someone has a condition or is taking medications that weaken the immune system, they may not be fully protected even if they are fully vaccinated. They may need to continue taking all precautions. More information is available in the [CDC's Interim Clinical Considerations for Use of COVID-19 Vaccines Currently Authorized in the United States](#).

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**Make getting vaccinated easy.**

Here is information to help you support patients in getting vaccinated and answer their questions about the process. See [COVID-19 Vaccine Resources](#) for more information.

- **Alleviate concerns.** Inform patients that COVID-19 vaccination is provided at no cost and is available regardless of immigration status.
- **Make it simple to get an appointment.** If you offer a COVID-19 vaccine, have staff available to answer phones or have a clear message on voicemail. Be proactive in reaching out to patients so they know what to do. Use communication mechanisms appropriate to your patient population, such as telephone, text, mail, email or social media. Remember, not everyone has access to or is comfortable using technology.

If you do not offer vaccination, you and your staff can help your patients get an appointment or find a walk-up site. A list of walk-up sites can be found at the [NYC Vaccine Command Center webpage](#). You can call 877-VAX-4-NYC (877-829-4692) and press 2 to be directed to an operator who will help you book an appointment for your patients on the spot. You can also complete this [form](#) for patients to receive a call from the NYC Vaccine Appointment Hotline.

- **Help patients with access issues.** You or your patients can call 877-VAX-4-NYC (877-829-4692) to request free transportation to and from a vaccination appointment for city residents 65 and older, and those with disabilities who have no other way to get to a vaccination site. You or your patients can also call this number or complete this [online form](#) to request in-home vaccination for NYC residents who are 75 years or older, have a disability or cannot leave their home.

- **Have handouts available on how to get vaccinated.**
  - The [What New Yorkers Need to Know About COVID-19 Vaccines palm card](#) includes the City's [Vaccine Finder website](#) (does not work on Internet Explorer) and hotline (877-VAX-4-NYC [877-829-4692]). The Vaccine Finder website also shows:
    - Which sites offer walk-up visits and who is eligible for walk-up visits at that site.
    - Which vaccines are available at each site.
  - Handouts showing City-run sites in each borough are available on the [NYC Vaccine Command Center webpage](#).
  - More posters and brochures are available at [nyc.gov/covidvaccine](#) or by calling **311**.
- **Become a vaccine provider.** If your practice is not already set up to administer COVID-19 vaccines, learn more on the [Citywide Immunization Registry webpage](#).

Keep up with the latest City information about vaccine access at [nyc.gov/covidvaccine](#). Find additional information specifically for health care providers at [nyc.gov/health/covidvaccineprovider](#) and [nyc.gov/vaccinetalks](#).