

## Frequently Asked Questions about the COVID-19 Vaccine

### GENERAL PUBLIC

### CHILDREN

### PREGNANCY

## GENERAL PUBLIC AND THE COVID-19 VACCINE

### **If we need a booster dose, does that mean that the vaccines aren't working?**

COVID-19 vaccines are working well to prevent severe illness, hospitalization, and death, but the latest data show that booster doses significantly increase protection against the Omicron variant. The latest CDC recommendations on booster doses help to ensure more people across the U.S. are better protected against COVID-19. The best way to protect yourself from COVID-19 is to get vaccinated and boosted if eligible—particularly for groups that are more at risk for severe COVID-19, such as older people and those with underlying medical conditions.

### **How do I know the COVID-19 vaccines are safe?**

The COVID-19 vaccines have received the most intense safety monitoring in U.S. history, which has allowed public health officials to make science-based recommendations that keep people safe.

All COVID-19 vaccines have been rigorously tested and reviewed. The vaccine's clinical trials three-phase process was detailed and thorough, and no shortcuts were taken. More than 150,000 people participated in U.S. clinical trials of the vaccines, and now, hundreds of millions of vaccine doses in the U.S. have been safely administered. Data from trial will continue to be collected for two years after each vaccine is first administered to ensure that they are safe for the long term. As with all vaccines, there will be ongoing monitoring for adverse events among people who are vaccinated into the future.

### **How was the vaccine developed so quickly?**

It may seem like the vaccines were developed quickly, but the process included rigorous safety reviews required for all new vaccines. The urgency of the pandemic created greater access to research funding, reduced bureaucratic obstacles, and encouraged unparalleled levels of government and industry cooperation. With these supports in place, scientists built upon previous work on coronavirus vaccines and on mRNA vaccine technology to develop these new vaccines quickly and effectively.

### **I already had COVID-19—why do I still need the vaccine?**

The CDC recommends all people age 5 and older get vaccinated against COVID-19, including people who were previously infected with the virus. Data show that immunity in people who have been infected with COVID-19 wanes over time, and scientists continue to study this. New data show that COVID-19 vaccination can provide a higher, more robust, and more consistent level of immunity to protect people from COVID-19 than antibodies from infection alone.

COVID-19 vaccination is effective in preventing reinfection in people who previously had COVID-19. One study, for example, showed that among people hospitalized with COVID-19, those who were previously infected with COVID-19 were 5 times more likely to get COVID-19 again if they were unvaccinated than people who were fully vaccinated. For that reason, even if you have already had COVID-19, vaccination is an important step to protect yourself and those around you.

### **Am I permanently immune after getting vaccinated? What about breakthrough infections?**

While COVID-19 vaccines are highly effective, no vaccine provides 100% immunity. Because this is a new virus, scientists and medical experts continue to monitor how long immunity lasts, whether some groups may need additional doses, and how well the vaccines protect against new variants of the virus.

Data continue to show that the COVID-19 vaccines are extremely effective in protecting fully vaccinated people from catching and spreading the virus, including the Delta variant, and scientists continue to monitor vaccine efficacy for new variants. A small percentage of vaccinated people experience breakthrough cases, but they are much more likely to have milder symptoms than unvaccinated people who get COVID-19.

Unvaccinated people continue to account for the vast majority of severe cases, hospitalizations, and deaths from COVID-19. CDC data show that in August 2021, the risk of dying from COVID-19 in the U.S. was more than 11 times greater for unvaccinated people than for fully vaccinated people.

The risk of severe illness from COVID-19 is elevated for some groups — including older adults, people with underlying medical conditions, immunocompromised people, and pregnant or recently pregnant women. If you have questions about your risk of COVID-19, how to protect yourself, or the vaccines, speak to your health care provider.

### **What is the risk of having an adverse reaction to the vaccine?**

The threat of COVID-19 is real and urgent, and getting vaccinated is the best way to protect yourself. Side effects to the COVID-19 vaccines are typically mild and subside in one to two days — like soreness in the arm, fatigue, headaches, or a slight fever.

The risk of having a serious adverse reaction to the COVID-19 vaccine is very low — far lower than the risk of contracting COVID-19. The CDC and FDA are closely monitoring vaccine outcomes to ensure safety.

If you have a question about the vaccines, talk with your healthcare provider.

### **Is it safe to get the COVID-19 vaccine at the same time as other vaccines, like flu?**

Children can get a COVID-19 vaccine and other vaccines, including a flu vaccine, at the same visit. Studies have shown that side effects after getting vaccinated are generally the same when COVID-19 vaccines are given alone or with the flu vaccine.

### **Will a vaccine prevent COVID?**

Based on research, it is likely that COVID-19 vaccines will prevent people from getting and spreading the virus.

Both the Pfizer-BioNTech and Moderna vaccines are showing about 95 percent efficacy in their preliminary reviews. This means people who received these vaccines in clinical trials had a 95 percent lower risk of getting COVID than people in the trial's control group who did not receive a vaccine. The Johnson & Johnson vaccine showed 72 percent efficacy in U.S. clinical trials.

The clinical trials showed that all three vaccines were 100 percent effective at preventing hospitalizations and deaths from COVID.

### **Can someone get COVID from the vaccines?**

It is impossible for the Pfizer-BioNTech, Moderna or Johnson & Johnson vaccines to give you COVID-19. None of the vaccines contain any live virus. Vaccines prime your immune system to recognize and fight off a disease, but they don't actually cause an infection.

### **Can the COVID vaccine alter your DNA?**

No, the COVID vaccines do not change or interact with your DNA in any way. The mRNA never goes into the nucleus – the part of the cell contains all of your own DNA and instructions – so it is impossible for it to alter your DNA.

### **Is the vaccine safe for me if I have allergies?**

We know that the great majority of people, even those with severe allergies, have tolerated the COVID vaccine. People with allergies to environmental allergens (such as pollen), foods, latex, oral medications and stinging insects can receive the COVID vaccine. The vaccine does not contain egg, gelatin or latex.

CDC recommends not to receive a COVID vaccine if you had a severe or immediate allergic reaction to any of the ingredients in the vaccine or anaphylaxis (a severe allergic reaction) to the first dose of an mRNA vaccine. If you have a history of an immediate allergic reaction to polyethylene glycol (also known as PEG), or to polysorbate, you should not receive the vaccine.

If you have questions about if you should receive the vaccine, please talk to your health care provider.

### **Do the vaccines protect against the variants?**

Staying up to date with COVID vaccines provides strong protection against severe disease and death when it comes to new variants. This includes booster shots at the appropriate time. Vaccines also reduce a person's risk of getting the virus. But no vaccine is 100% effective and some fully vaccinated people will become infected and experience illness. This is called a breakthrough infection. When one happens, the vaccines still provide strong protection against serious illness and death.

The Delta variant and Omicron variant are extremely contagious — more than twice as contagious as the original virus. These two variants cause more breakthrough cases than the original virus and previous variants. People who have not been fully vaccinated against COVID-19 are most at risk and more likely to transmit the virus to others.

### **What should I know about breakthrough infections?**

COVID-19 vaccines are an effective tool to bring the pandemic under control. No vaccines are 100% able to prevent illness. Fortunately, the risk of serious illness, hospitalization, and death are all much lower if you're vaccinated.

Recent data shows that vaccine effectiveness decreases over time. New variants are also even more infectious than the original virus. This leads to more breakthrough cases among those vaccinated. Vaccination still helps protect against serious illness and death. Because of this, CDC recommends that everyone age 12+ receive a booster shot at the appropriate time.

### **Did the clinical trials include people like me?**

Researchers made sure that the trials included adults from many types of backgrounds, races, ethnicities, and geographies. They worked closely with faith leaders, community groups, and health clinics across the United States to reach volunteers from different walks of life.

Medical experts want to make sure the vaccines work safely and effectively for as many people as possible. People may respond differently to vaccines based on factors like age, gender, and health conditions — so it is important to have a diverse group of participants in clinical trials.

COVID-19 has hit hard in the Black and Hispanic communities. Historically, these populations haven't always been included in clinical research. With COVID-19 vaccines researchers made sure volunteers included people of color, as well as people over the age of 65 who are at higher risk of complications from the virus.

### **Should I worry about long-term side effects?**

It is extremely unlikely you will suffer serious side effects that could cause a long-term health problem after getting a COVID-19 vaccine.

Long-term side effects following any vaccination are extremely rare. In the past vaccine monitoring has shown that if side effects are going to happen, they tend to happen within six weeks of receiving a vaccine dose.

For this reason, the FDA required each of the authorized COVID-19 vaccines to be studied for at least eight weeks after the final dose. Millions of people have received COVID-19 vaccines, and no long-term side effects have been found.

The CDC continues to closely monitor COVID-19 vaccines for any safety issues, including problems with manufacturing, a specific lot, or the vaccine itself. If public health experts find any potential safety concerns, FDA and the vaccine manufacturer will work towards a solution.

## **CHILDREN AND THE COVID-19 VACCINE**

### **Why should children get the COVID-19 vaccine?**

Medical and public health experts, including the CDC and the American Academy of Pediatrics, recommend that children and adolescents age 5 and older get a COVID-19 vaccine to help protect them from contracting and spreading the virus.

The vaccine is the best way to protect children from becoming severely ill or having long-lasting health impacts due to COVID-19. COVID-19 has become one of the top 10 causes of pediatric death, and tens of thousands of children and teens have been hospitalized with COVID-19. While children and adolescents are typically at lower risk than adults of becoming severely ill or hospitalized from COVID-19, it is still possible.

Another important reason for children to get the COVID-19 vaccine is to protect their friends, family, and the broader community from the spread of the virus. As vaccination rates increase, the lower the chances that the coronavirus will mutate into dangerous variants.

### **Is the COVID-19 vaccine safe for children?**

Yes. Keeping children safe and healthy is top of mind for parents, and scientists have worked to ensure the vaccine is safe for children ages 5-17. Before being authorized for children, scientists and medical experts completed their review of safety and effectiveness data from clinical trials of thousands of children. The Pfizer COVID-19 vaccine was rigorously tested and reviewed, and more than 11 million adolescents ages 12-17 have already received the COVID-19 vaccine. As of November 2, the Pfizer vaccine is also authorized for children ages 5-11.

Data from trials will continue to be collected for two years after each vaccine is first administered to ensure that they are safe for the long term. As with all vaccines, there will be ongoing monitoring among people who are vaccinated.

### **Will children experience any side effects from the vaccine? I've heard about myocarditis.**

Side effects to the COVID-19 vaccines are typically mild and subside in one to two days — like soreness in the arm, fatigue, headaches, or a slight fever.

The risk of a child having a serious adverse reaction to the COVID-19 vaccine is very low. One rare complication that has been linked to the COVID-19 vaccine is myocarditis (inflammation of the heart), and data demonstrate a higher risk for such inflammation among younger males. However, reports of these complications are rare. The risk of developing myocarditis after a COVID-19 infection is much higher than the risk of developing myocarditis after the vaccine.

If you have questions about how to protect your children from COVID-19, about the vaccines, or about myocarditis, speak to your health care provider or pediatrician.

### **Why should my child get vaccinated against COVID-19?**

Vaccinating children ages 5 years and older can help protect them from getting COVID-19, spreading the virus to others, and getting sick if they do get infected. While COVID-19 tends to be milder in children than adults, it can make children very sick, require hospitalization, and

some children have even died. Children with underlying medical conditions are more at risk for severe illness compared to children without underlying medical conditions.

Getting your child vaccinated helps to protect your child and your family, including siblings who are not eligible for vaccination and family members who may be at risk of getting very sick if infected. Vaccination is now recommended for everyone ages 5 years and older. Currently, the Pfizer-BioNTech COVID-19 vaccine is the only one available to children ages 5 years and older.

COVID-19 vaccines have been used under the most intensive safety monitoring in U.S. history. Scientists have conducted clinical trials with thousands of children, and the results show that COVID-19 vaccines are safe and effective.

Your child cannot get COVID-19 from any COVID-19 vaccine, and there is no evidence that COVID-19 vaccines cause fertility problems.

Your child may have some side effects, which are similar to those seen with other routine vaccines and are a normal sign that their body is building protection. These side effects may affect their ability to do daily activities, but they should go away in a few days. Some people have no side effects and severe allergic reactions are very rare.

### **Are children at risk of getting sick from COVID-19?**

Children ages 5 through 11 years are at risk of getting very sick from COVID-19. As of October 2021, children ages 5 through 11 years have experienced more than 8,300 COVID-19 related hospitalizations and nearly 100 deaths from COVID-19. In fact, COVID-19 ranks as one of the top 10 causes of death for children aged 5 through 11 years. Additionally, children can experience both short and long-term conditions after infection.

Children who get COVID-19 can also develop serious complications like multisystem inflammatory syndrome (MIS-C)—a condition where different body parts become inflamed, including the heart, lungs, kidneys, brain, skin, eyes, or gastrointestinal organs. From April 2020 to October 2021, more than 2,300 cases of MIS-C have been reported in children ages 5 through 11 years. Children with underlying medical conditions are more at risk for severe illness from COVID-19 compared with healthy children.

### **Will this impact my child's reproductive development?**

No, the COVID-19 vaccines don't affect puberty or a child or teen's reproductive development in any way. There has been no evidence of vaccines impacting fertility or reproductive health in children or adults. Medical experts are confident that the vaccines are safe for growing bodies.

### **If my child or teen has a disability, is it still recommended they get the COVID-19 vaccine?**

CDC and American Academy of Pediatrics (AAP) recommend that all children over age 5 or older get immunized against COVID-19 as soon as they are eligible.

As COVID-19 continues to spread, children and teens with a disability may be at increased risk for more severe illness and complications from getting COVID-19.

## **PREGNANCY AND THE COVID-19 VACCINE**

### **Should I get the COVID-19 vaccine if I am pregnant or breastfeeding?**

Yes. Based on data on the safety of COVID-19 vaccines during pregnancy, CDC is now recommending COVID-19 vaccination for all people who are pregnant, breastfeeding or trying to get pregnant now or in the future. Data show that pregnant and recently pregnant people are more likely to get severely ill if infected with COVID-19 compared with non-pregnant people, and the highly contagious delta variant makes it even more important for eligible people to get vaccinated.

The CDC's recommendation, announced on August 11, is based on further evidence about the safety of COVID-19 vaccines and a new analysis of current data from the CDC's v-safe pregnancy registry. In addition, the American College of Obstetricians and Gynecologists and other leading maternal health and public health organizations are "strongly urging" all pregnant individuals, and anyone planning to become pregnant, be vaccinated against COVID-19.

### **Does the COVID-19 vaccine increase risk of miscarriage?**

No. There is no evidence to show that getting a vaccine increases the risk of miscarriage.

There has been extensive safety monitoring of the COVID-19 vaccines, including analysis of vaccination during pregnancy. Specifically, studies show that the rate of miscarriage in the first 20 weeks of pregnancy in the general population is about 11-16%, and an analysis of safety monitoring data of people who received an mRNA COVID-19 vaccine showed a similar rate of 13%. In other words, being vaccinated with one of the currently available COVID-19 vaccines does not increase miscarriage risk; rather, it protects against the higher risk of serious illness if you are pregnant and become infected with the virus.

### **Does the COVID-19 vaccine cause infertility or fertility issues?**

No. There is no evidence that fertility problems are a side effect of any vaccine, including COVID-19 vaccines.

### **Will getting a COVID-19 vaccine during pregnancy or while breastfeeding protect my baby from COVID-19?**

Antibodies made after a pregnant person received an mRNA COVID-19 vaccine have been found in umbilical cord blood, which means that COVID-19 vaccination during pregnancy might help protect babies against COVID-19. Additionally, recent reports have shown that breastfeeding people who have received mRNA COVID-19 vaccines have antibodies in their breast milk, which could help protect their babies. In both of these cases, more data are needed to determine the level of protection these antibodies may provide to the baby and how long that protection would last.

### **If I am pregnant or planning to become pregnant, can I get a COVID-19 vaccine?**

Yes, COVID-19 vaccination is recommended for people who are pregnant, breastfeeding, trying to get pregnant now, or who might become pregnant in the future. You might want to have a conversation with your healthcare provider about COVID-19 vaccination. While such a conversation might be helpful, it is not required before vaccination. Learn more about vaccination considerations for people who are pregnant or breastfeeding.

If you are pregnant and have received a COVID-19 vaccine, we encourage you to enroll in v-safe, CDC's smartphone-based tool that provides personalized health check-ins after vaccination. A v-safe pregnancy registry has been established to gather information on the health of pregnant people who have received a COVID-19 vaccine.

**Is there a fertility or developmental concern with vaccinating children before they reach puberty?**

No. There is no evidence that any vaccines, including COVID-19 vaccines, can cause female or male fertility problems. There is no evidence that vaccine ingredients or antibodies developed following COVID-19 vaccination will cause any problems with becoming pregnant. Similarly, there is no evidence that the COVID-19 vaccine affects puberty.

Professional medical organizations serving people of reproductive age, including adolescents, emphasize that there is no evidence that COVID-19 vaccination causes a loss of fertility. These organizations also recommend COVID-19 vaccination for both men and women who want to have a baby in the future.