

COVID-19 Vaccine for Younger Children (Ages 5-11): What You Should Know

Current as of 11/2/2021

The COVID-19 vaccine is here for children ages 5-11 years-old! This is their shot to get back to a more normal life after months of isolation and masking. The best we can do as parents is make an informed decision based on the scientific information available. This handout will teach you more about the Pfizer-BioNTech mRNA vaccine approved for this age group and will address common myths and misinformation about COVID-19 vaccines in general.

WHICH VACCINE IS AVAILABLE FOR MY 5 TO 11-YEAR-OLD? WHAT IS THE SCHEDULE AND THE DOSING?

As of Nov. 2, 2021, the Pfizer-BioNTech vaccine has been endorsed by the U.S. Food and Drug Administration (FDA) and approved for emergency use in this age group with a recommendation made by the Centers for Disease Control and Prevention Advisory Committee on Immunization Practices. The vaccine is given in 2 doses, 21 days apart. Two weeks after the 2nd dose, your child is considered fully vaccinated. Each dose is 10 micrograms (less than the 30 micrograms for patients 12 years and older). The lower dose is safe and works very well in younger children because their immune systems are stronger.

WHEN WILL CHILDREN YOUNGER THAN AGE 5 BE ABLE TO GET A COVID-19 VACCINE?

Studies are still ongoing for children under age 5 as well as for the use of the Moderna and Johnson & Johnson /Janssen vaccines in children and teenagers.

WHAT ARE THE INGREDIENTS IN THE PFIZER VACCINE?

The Pfizer vaccine contains the mRNA for the spike protein, lipids (fats) to help the mRNA get into the cells and a salt and sugar buffer to keep the vaccine stable until it is ready to be given. There are **no preservatives, latex, eggs or metals** in the vials. There are **no tissues, gelatin or any materials from animals**.

What are mRNA vaccines (Pfizer® and Moderna®) and how do they work?

The messenger RNA (mRNA) vaccines work by teaching the body to recognize the COVID-19 virus in the future. Of note, unlike many other vaccines, mRNA vaccines do not contain any parts of inactivated viruses or bacteria.

Here's how it works! The COVID-19 virus looks like a ball covered in spikes. The mRNA vaccine teaches your body to make proteins that look just like the spikes on COVID-19 but are not actually the virus. None of the other parts of the virus are made. After getting the vaccine, the immune system (system in the body that fights diseases and infections) recognizes the spikes should not be there. It produces antibodies (disease-fighting proteins) that help the body get rid of them. These antibodies remember what to do if and when your body is exposed to the virus in the future. After the mRNA coaches your body how to make the spike protein, it is broken down and leaves the cells in just a few hours.

HOW MANY CHILDREN WERE IN THE PFIZER STUDY AND HOW MANY GOT COVID-19 INFECTION?

In the Pfizer vaccine trial for 5–11-year-olds, 1,518 children received the vaccine and 750 received a placebo (an injection that had no vaccine). Three children in the vaccine group and 16 children in the placebo group got COVID-19 infection. The trial had a vaccine efficacy rate of 90.7% (it worked to prevent symptomatic COVID-19 in more than 90 of every 100 participants). The trial has since been expanded to 4,500 children to allow for even more safety monitoring.

WHAT WERE THE RATES OF SIDE EFFECTS FOR CHILDREN PARTICIPATING IN THE PFIZER VACCINE STUDY AFTER THE 1ST AND 2ND DOSES?

The most common side effect was pain at the injection site (71%). Similar to what we have seen in older children and adults, reactions occurred more frequently after the 2nd dose, including:

Side effect	Children with the side effect after dose 1	Children with the side effect after dose 2
Fatigue	33%	39%
Headache	22%	28%
Chills	5%	13%
Fever	9%	13%
Aches	9%	12%
Lymphadenopathy and rash	0.9%	0.9%

There were **NO** reports of myocarditis, blood clots, anaphylaxis or death.

Most side effects go away within 1-2 days. The side effects are a signal that the immune system is learning how to protect your child's body against the virus. If your child doesn't get side effects, it does not mean the vaccine did not work.

"No parent should have to lose their child to a vaccine-preventable illness if we have a vaccine that can be deployed that is safe and effective." – Peter Marks, MD, PhD, director of the Center for Biologics Evaluation and Research at the U.S. Food and Drug Administration

WHY SHOULD I CONSIDER GETTING MY CHILD VACCINATED WHEN KIDS DO NOT USUALLY GET VERY SICK FROM COVID-19?

- The vaccine works very well to prevent severe illness and death in children and adults. Since the COVID-19 delta variant, more children are getting the virus. For the week ending October 28, 2021, children represented 24.2% (almost 1 in 4) of reported weekly COVID-19 cases. Although COVID-19 infection in children is typically milder than in adults, **this does not mean that an infection is risk-free**. Some previously healthy children with COVID-19 get severe lung infections and multisystem inflammatory syndrome (MIS-C, a complication of COVID-19) causing them to get very sick and require hospitalization. In the United States alone, millions of children have had COVID-19, over 23,500 have required hospitalization (many in the intensive care unit), and over 600 have died. This makes COVID-19 among the top 10 leading causes of death in children under age 11.
- Even mild cases of COVID-19 may not be as trivial for kids as they seem. The journal *Nature* reports that as many as 10% of infected children under age 12 have symptoms of COVID-19 that last longer than 5 weeks. Many teens whose cases of COVID-19 were mild, or even asymptomatic, are experiencing cognitive effects lasting for months and impacting their school and sports performance. It is still unclear which late complications of mild childhood COVID-19 will arise over the next decades. Vaccination will lower the risk of "long COVID" and longer-term complications from acute infection.
- The vaccine helps prevent or reduce the spread of COVID-19 among family members and friends in the community, including those who might be at higher risk when infected. There are still over 1,000 people a day dying of COVID-19 in the U.S.
- The vaccine can help stop other variants from emerging. Getting the vaccine reduces the virus's ability to infect new people, replicate and change into new variants that may be more dangerous.

MY CHILD ALREADY HAD COVID-19. SHOULD THEY STILL GET THE VACCINE?

Yes, vaccination is still recommended. Research has not shown how long you are protected from getting COVID-19 again after you have recovered. Recent studies are showing evidence that people get better protection by being fully vaccinated compared with having had COVID-19 infection. If your child received antibody-based treatments for COVID-19, talk with your doctor about when to get the vaccine.

DOES THE MRNA COVID-19 VACCINE CAUSE MYOCARDITIS (HEART MUSCLE INFLAMMATION) IN CHILDREN?

Myocarditis has been reported as a very rare side effect (about 1 in 20,000 people) after the 2nd dose of mRNA vaccines, mostly in males ages 16-29 years old. It is very important to put this information in context and weigh the risks and benefits. **The risk of getting myocarditis after COVID-19 infection is much higher than the risk of getting myocarditis after vaccination.** There were no cases of myocarditis in children ages 5-11 years old in the Pfizer vaccine study. In older children and young adults who developed myocarditis after vaccination, cases were mild and resolved quickly. Compare this to about 75% of children with COVID-19 related MIS-C (multisystem inflammatory syndrome in children) who developed myocarditis, many cases of which were severe with long-term effects.

DO COVID-19 VACCINES REDUCE FERTILITY?

There is **no scientific research that COVID-19 vaccines affect or reduce fertility.** In phase 3 trials of mRNA vaccines, an equal number of women in the placebo group (no vaccine) and vaccine group became pregnant. As described above, the mRNA in the Pfizer and Moderna vaccines does not stay in cells after it coaches the body to make the spike proteins.

DO COVID-19 VACCINES ALTER YOUR DNA?

No, they do NOT. There is zero chance that mRNA vaccines can alter your DNA. To alter DNA, the vaccine would need to be able to enter the cell nucleus. This is not possible since the vaccine contains no signals to be able to do this.

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WHERE CAN I GET A COVID-19 VACCINE FOR MY CHILD?

- Make an appointment at a Mass General Brigham site at <https://covidvaccine.massgeneralbrigham.org/MA>
Parents and guardians need to sign a waiver for children. If appointments are full, check back later for openings.
- Check with your pediatrician's office and your town/city website.
- For MA patients, go to VaxFinder.mass.gov
- For locations anywhere in the U.S., search vaccines.gov, text your zip code to 438829 or call 800-232-0233.

WHERE CAN I LEARN MORE ABOUT THE COVID-19 VACCINE FOR MY CHILD?

- Your child's pediatrician or other member of their care team
- The CDC at www.cdc.gov/coronavirus
- The American Academy of Pediatrics (AAP):

Scan the QR codes from the AAP below with the camera or a QR code scanner app on your smart device.

How mRNA COVID-19 vaccines were developed



COVID-19 and kids: How mRNA vaccines work



"We are not going to get control of this pandemic until we vaccinate the unvaccinated." – Paul Offit, MD, director of the Vaccine Education Center Children's Hospital of Philadelphia