

Pregnancy, Breastfeeding, and the COVID-19 Vaccine

What we know:

- COVID-19 infections are more dangerous during pregnancy for both parent and fetus.
- The vaccine can prevent 94-95% of infections, and is the safest choice for most people.

What we don't know:

- The vaccine trials did not allow people who were pregnant or breastfeeding to be included.

I'M PREGNANT, OR BREASTFEEDING. WHAT SHOULD I DO?

Experts agree that you should be offered the COVID-19 vaccine. Your choices are:

1 Get the vaccine as soon as I can

2 Wait for more information about the vaccine during pregnancy or breastfeeding

WHAT CAN HELP ME MAKE THIS CHOICE?

You are high risk for COVID-19.

Reasons to get the vaccine:

- You, or someone you live with, are at high risk for exposure to COVID-19:
 - Healthcare worker
 - Resident of long-term care facility
 - Unable to physically distance or mask regularly
- Your community rates of COVID-19 are high
- You have one or more health condition that makes COVID-19 more dangerous for you, such as: pregnancy, diabetes, BMI >30, a heart condition, lung disease, kidney disease, immunocompromise, sickle cell disease, or cancer
- The risks of getting COVID-19 during pregnancy or breastfeeding make you more worried than the unknowns of the vaccine

Total:

You can stay safe from COVID-19.

Reasons to wait for more information:

- You can always mask and physically distance
- The people you live with can always mask and physically distance
- Your community rates of COVID-19 are low
- The unknowns of getting the vaccine during pregnancy or breastfeeding make you more worried than getting COVID-19

What is known about pregnancy, breastfeeding, COVID-19 and the vaccine?
Read on in our FAQs.

Total:

Which column tallied up higher for you? Which points matter the most for you? This may help guide your decision. We also encourage you to speak to your healthcare provider. Whatever choice you make, you should be supported by your medical team.

Keeping You Safe

Frequently Asked Questions

PREGNANCY

What do we know about COVID-19 infections during pregnancy?

- COVID-19 infections are more dangerous during pregnancy. Pregnancy increases your risk of being admitted to the hospital, needing ICU care, needing a machine (ventilator) to help you breathe, needing a machine to help oxygenate your blood (extracorporeal membrane oxygenation or ECMO), and death.
- We don't have a lot of information about transmitting the infection to your baby during pregnancy. If it happens, it happens very rarely.
- There is not very much information about the risk of birth defects for children born to parents infected with COVID-19.
- If you become severely sick during pregnancy, risks for the baby also go up. These risks include preterm birth, poor fetal growth, and stillbirth.

Do we know anything about this vaccine and pregnancy?

- The COVID-19 mRNA vaccine is a new type of vaccine that has never been used before during pregnancy, because pregnant people were not allowed to participate in the vaccine trials.
- Live vaccines are not recommended in pregnancy because of a possible risk of true infection. The COVID-19 vaccines are **not** live vaccines.
- Even though pregnant people were not allowed in the vaccine trial, there were a handful of pregnancies that were not known at the time of vaccination, or happened soon after vaccination during the trial. There was not a higher risk of pregnancy complications in patients who received the vaccine.
- In animal studies reported by Moderna, the vaccine did not result in female fertility issues or pregnancy complications.
- These results are reassuring, but still too early with too few numbers to make any conclusions about safety and outcomes during pregnancy.

If we can't make any conclusions, what are reasons that I should still get it while pregnant?

- You are more likely to get very sick from COVID-19 if you are pregnant (needing the ICU for care, need for machines to help with breathing, and death).
- If you are very sick during pregnancy, risks to the baby also increase, like preterm birth, poor fetal growth, and stillbirth.
- While the vaccine was developed quickly, no "corners were cut" in any step. Much of the work was already done in the last 10-20 years on other coronaviruses (like SARS).
- The vaccine's overall risk is low. Facts about COVID-19 mRNA vaccines include:
 - **Not** live virus vaccines
 - **Do not** cause infection
 - **Do not** enter the cell's nucleus
 - **Do not** change your DNA
 - Degraded quickly in the body - *it's usually gone within 5 hours.*

What goes into making a decision about getting the vaccine during pregnancy?

- Knowing the vaccine works really well to prevent COVID-19, which can lower risk of complications to you and your baby. This may be a reason to get the vaccine as soon as possible, if your risk is high.
- Knowing that more information about the vaccine during pregnancy will come out in the next few months and year. This may be a reason to wait, if your risk is low.
- How much infection is in your community - higher levels mean higher risk.
- Your personal risk of getting exposed to COVID-19, and getting really sick or having pregnancy complications.

Keeping You Safe

Frequently Asked Questions

PREGNANCY (cont.)

- How far along you are during pregnancy. The first trimester is the highest risk time for birth defects. We don't know if the COVID-19 vaccine causes birth defects. By how the vaccine works, the risk should be low.
- Some may wait until they are fully vaccinated to get pregnant.
- Some may not get vaccinated during the first trimester.
- Some may want to get vaccinated no matter how far along they are during pregnancy.

I had COVID-19 before I got pregnant. Now that I am pregnant, do I get the vaccine?

The vaccine should be offered to anyone who is eligible, no matter if they've had COVID-19 before or not. Testing to see if you've had the infection before is not recommended to decide whether to get the vaccine or not.

Do I need to get a pregnancy test before getting the COVID-19 vaccine?

No. Testing for pregnancy prior to a vaccination dose is not recommended.

What should I do if I have a fever after vaccination?

Fever can occur in up to 16% of people getting the COVID-19 vaccination, usually after the second dose. Older research suggested that fever in pregnancy (especially the first trimester) can be associated with increased risk of birth defects. However, newer research does not show this increased risk.

The most common sign of COVID-19 infection is fever, which can occur more than 95% of the time.

If you have a fever for any reasons during pregnancy, taking acetaminophen (Tylenol) is recommended to lower your temperature.

BREASTFEEDING

Are there any recommendations about this vaccine and breastfeeding?

There are no data on breastfeeding because breastfeeding people were not included in the vaccine trials.

The COVID-19 mRNA vaccine technology has never been used before, but the theoretical risk for breastfeeding is low.

There is possibly benefit of getting the vaccine during breastfeeding. Antibodies developed in response to vaccine could be transferred to a breastfed infant or child, and give some level of protection against infection. However, there is no information about how much protection this could give.

In people with COVID-19 infection, the virus has not been found in their breastmilk.

Keeping You Safe

Frequently Asked Questions

OTHER CONSIDERATIONS

What should I do if I am in the middle of fertility treatment, getting ready to start, or just trying to conceive?

There is no research to answer this question. If you stop trying to become pregnant during the vaccination course, you can reasonably return to trying again to conceive after the second dose.

Am I protected after the first shot?

One dose will give you 52% protection. Getting both doses is necessary for 95% protection.

What happens if I can't get the second shot 21 days later?

If more than 21 days have passed after the first dose, the second dose should be administered as early as possible. No doses will need to be repeated.

Who should NOT get this vaccine?

- If you are allergic to any component of the COVID-19 vaccine.
- If you have severe allergic reactions to any vaccine or injectable therapy.

Vaccine recipients will be observed for 15 minutes to make sure they are not developing an allergic response.

What if I have allergies and usually need to take allergy medications?

People who have had severe allergic reactions that needed to be hospitalized, or needed to receive injections to control an allergic reaction, should talk to their healthcare provider before getting vaccinated. Seasonal allergies should not prevent you from getting vaccinated.

Could all of this guidance change?

Yes. As more people get vaccinated, we will have more data regarding the vaccine, especially in pregnancy and breastfeeding. Our recommendations and guidance will be updated to reflect any new important information coming out.

What else can I do to decrease risk to myself and my family?

Frequent hand-washing, social distancing, and masking have all been shown to help decrease your risk of COVID-19, whether you are pregnant or breastfeeding.

Addressing misinformation about the COVID-19 vaccine and fertility

There is a lot of information about the vaccine right now that you may come across on social media or the internet. Some of this information may not be accurate. Recently, there was concern that the COVID-19 vaccine could cause infertility or trick the human body into attacking the placenta. These claims are not true. We encourage you to talk to a trusted medical source, such as your doctor or midwife, if you have questions about the vaccination.

This document was developed by:

Washington University Obstetrics and Gynecology

Division of Maternal-Fetal Medicine and Ultrasound

Division of Fertility & Reproductive Medicine

Keeping You Safe

Other resources:

- Society for Maternal-Fetal Medicine (SMFM) Statement: SARS-CoV-2 Vaccination in Pregnancy
- The American College of Obstetricians and Gynecologists: Vaccinating Pregnant and Lactating Patients Against COVID-19
- CDC ACIP COVID-19 Vaccines Work Group
- Safety and Efficacy of the BNT162b2 mRNA COVID Vaccine (NEJM)
- FDA Fact Sheet for Vaccination Providers
- FDA Fact Sheet for Recipients and Caregivers

References

1. Ellington S, Strid P, Tong VT, Woodworth K, Galang RR, Zambrano LD, et al. Characteristics of Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status — United States, January 22–June 7, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(25):769–75.
2. Delahoy MJ, Whitaker M, O'Halloran A, et al. Characteristics and Maternal and Birth Outcomes of Hospitalized Pregnant Women with Laboratory-Confirmed COVID-19 - COVID-NET, 13 States, March 1–August 22, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(38):1347–54.
3. Panagiotakopoulos L, Myers TR, Gee J, Lipkind HS, Kharbanda EO, Ryan DS. SARS-CoV-2 Infection Among Hospitalized Pregnant Women: Reasons for Admission and Pregnancy Characteristics — Eight U.S. Health Care Centers. *MMWR Morb Mortal Wkly Rep.* 2020;69(38):1355–9.
4. Zambrano LD, Ellington S, Strid P, Galang RR, Oduyebo T, Tong VT, et al. Update: Characteristics of Symptomatic Women of Reproductive Age with Laboratory-Confirmed SARS-CoV-2 Infection by Pregnancy Status — United States, January 22–October 3, 2020. *MMWR Morb Mortal Wkly Rep.* 2020;69(44):1641–7.
5. SMFM Publications and Clinical Guidance: Coronavirus (COVID-19) and Pregnancy: What Maternal- Fetal Medicine Subspecialists Need to Know. Version November 23, 2020. Accessed December 12, 2020. https://s3.amazonaws.com/cdn.smfm.org/media/2589/COVID19-WhatMFM_s_need_to_know_revision_11-23-20_final.pdf
6. Chambers C, Krogstad P, Bertrand K, et al. Evaluation for SARS-CoV-2 in Breast Milk From 18 Infected Women. *JAMA.* 2020;324(13):1347–1348. doi:10.1001/jama.2020.15580
7. Society for Maternal-Fetal Medicine (SMFM) Statement: SARS-CoV-2 Vaccination in Pregnancy 12-1-20. Accessed December 12, 2020. [https://s3.amazonaws.com/cdn.smfm.org/media/2591/SMFM_Vaccine_Statement_12-1-20_\(final\).pdf](https://s3.amazonaws.com/cdn.smfm.org/media/2591/SMFM_Vaccine_Statement_12-1-20_(final).pdf)
8. FDA Vaccines and Related Biological Products Advisory Committee Meeting December 10, 2020. FDA Briefing Document. Pfizer-BioNTech COVID-19 Vaccine. <https://www.fda.gov/media/144245/download>
9. Kerr SM, Parker SE, Mitchell AA, Tinker SC, Werler MM. Periconceptional maternal fever, folic acid intake, and the risk for neural tube defects. *Ann Epidemiol.* 2017 Dec;27(12):777–782.e1. doi: 10.1016/j.annepidem.2017.10.010. Epub 2017 Nov 2. PMID: 29133009; PMCID: PMC5824687.
10. Sass L, Urhoj SK, Kjærgaard J, Dreier JW, Strandberg-Larsen K, Nybo Andersen AM. Fever in pregnancy and the risk of congenital malformations: a cohort study. *BMC Pregnancy Childbirth.* 2017;17(1):413. Published 2017 Dec 8. doi:10.1186/s12884-017-1585-0
11. CDC ACIP COVID-19 Vaccines Working Group: Use of Pfizer-BioNTech COVID-19 Vaccine: Clinical Considerations. December 12, 2020. <https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2020-12/slides-12-12/COVID-03-Mbaeyi.pdf>

Keeping You Safe