Frequently Asked Questions on COVID-19 Vaccinations and Fertility Issues

Take Home Points as Recommended by the CDC:

- COVID-19 vaccination is recommended for everyone 12 years of age and older, including people who are trying to get pregnant now or might become pregnant in the future, as well as their partners.
- Currently no evidence shows that any vaccines, including COVID-19 vaccines, cause fertility problems (problems trying to get pregnant) in women or men.
- If you get pregnant after receiving your first shot of a COVID-19 vaccine that requires two doses (i.e., Pfizer-BioNTech COVID-19 vaccine or Moderna COVID-19 vaccine), you should get your second shot to get as much protection as possible.

1. Will getting the COVID-19 vaccine affect fertility?

No. Multiple studies have demonstrated that COVID-19 vaccines do not reduce fertility.

In testing the COVID-19 vaccinations, pregnant people were not included in the trials and those who participated in the trials were asked not to get pregnant; however, some people did accidentally become pregnant. This occurred in about equal incidence in both the vaccine control arm and in those people receiving the vaccine – which tells us the vaccine does not reduce the ability to achieve and carry a pregnancy. People receiving the vaccine who became pregnant have been followed closely and have had normal pregnancies. Here are links to information:

- COVID-19 Vaccines for People Who Would Like to Have a Baby (CDC)
- V-safe COVID-19 Vaccine Pregnancy Registry (CDC)
- Pfizer Vaccines and Related Biological Products Advisory Committee Briefing Document (December 10, 2020)
- Moderna Vaccines and Related Biological Products Advisory Committee Meeting Briefing Document (December 17, 2020)
- Jannsen Vaccines and Related Biological Products Advisory Committee Meeting Briefing Document (February 26, 2021)

"The estimated risks (14.1% overall and 12.8% in age-standardized analyses) are consistent with the risks of spontaneous abortion reported in the general population,"
In IVF patients, data shows the vaccines do not affect ovarian function, quality of eggs, fertilization of eggs, or pregnancy rate.

- Ovarian follicular function is not altered by SARS-Cov-2 infection or BNT162b2 mRNA Covid-19 vaccination
- BNT162b2 COVID-19 vaccine has no negative effect on women's fertility
- SARS-CoV-2 spike protein seropositivity from vaccination or infection does not cause sterility
- Does mRNA SARS-CoV-2 vaccine influence patients' performance during IVF-ET cycle?

FACT: (Johns Hopkins' COVID-19 Myth v. Fact) The COVID-19 vaccine will not affect fertility. The truth is that the COVID-19 vaccine encourages the body to create copies of the spike protein found on the

coronavirus's surface. This "teaches" the body's immune system to fight the virus that has that specific spike protein on it.

Confusion arose when a false report surfaced on social media, saying that the spike protein on this coronavirus was the same as another spike protein called syncitin-1 that is involved in the growth and attachment of the placenta during pregnancy. The false report said that getting the COVID-19 vaccine would cause a woman's body to fight this different spike protein and affect her fertility. The two spike proteins are completely different and distinct, and getting the COVID-19 vaccine will not affect the fertility of women who are seeking to become pregnant, including through in vitro fertilization methods. During the Pfizer vaccine tests, 23 women volunteers involved in the study became pregnant, and the only one who suffered a pregnancy loss had not received the actual vaccine, but a placebo.

2. Should you get the vaccine if wanting to become pregnant?

Yes. COVID-19 vaccination is recommended for people who are trying to get pregnant now or might become pregnant in the future , as well as their partners

- V-safe COVID-19 Vaccine Pregnancy Registry (CDC)
- Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons

3. Can the COVID-19 vaccines affect male fertility through reduction of sperm?
No. Several studies have shown the COVID-19 vaccines does not reduce number or quality of sperm produced by males.

- Does mRNA SARS-CoV-2 vaccine influence patients' performance during IVF-ET cycle?
- Sperm Parameters Before and After COVID-19 mRNA Vaccination

Studies have shown; however, that **having a COVID-19 infection may reduce sperm quality.**
SARS-COV-2 (Covid-19) and male fertility

4. If pregnant, should I get the COVID-19 vaccination?
Yes. CDC guidelines now recommend COVID-19 vaccination for pregnant people.

- COVID-19 Vaccination Safe for Pregnant People (CDC)

"CDC encourages all pregnant people or people who are thinking about becoming pregnant and those breastfeeding to get vaccinated to protect themselves from COVID-19," said CDC Director Dr. Rochelle Walensky. "The vaccines are safe and effective, and it has never been more urgent to increase vaccinations as we face the highly transmissible Delta variant and see severe outcomes from COVID-19 among unvaccinated pregnant people.

A new CDC analysis external icon of current data from the v-safe pregnancy registry assessed vaccination early in pregnancy and did not find an increased risk of miscarriage among nearly 2,500 pregnant women who received an mRNA COVID-19 vaccine before 20 weeks of pregnancy. Miscarriage typically occurs in about 11-16% of pregnancies, and this study found miscarriage rates after receiving a COVID-19 vaccine were around 13%, similar to the expected rate of miscarriage in the general population.

Previously, data from three safety monitoring systems did not find any safety concerns for pregnant people who were vaccinated late in pregnancy or for their babies. Combined, these data and the known severe risks of COVID-19 during pregnancy demonstrate that the benefits of receiving a COVID-19 vaccine for pregnant people outweigh any known or potential risks.

Clinicians have seen the number of pregnant people infected with COVID-19 rise in the past several weeks. The increased circulation of the highly contagious Delta variant, the low vaccine uptake among pregnant people, and the increased risk of severe illness and pregnancy complications related to COVID-19 infection among pregnant people make vaccination for this population more urgent than ever."

In addition, although the risk for severe illness low, pregnant people are at an increased risk for severe illness from COVID when compared with nonpregnant people. Pregnant people with COVID-19 disease are at an increased risk of preterm birth and other adverse pregnancy outcomes when compared to pregnant people who do not have COVID-19 disease.

- COVID-19 Vaccines While Pregnant or Breastfeeding (CDC)
- Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy (BMJ)

5. If breastfeeding, should I get the vaccine?

Yes. All people aged 16 and older should be vaccinated against COVID-19, including those who are breastfeeding. Because the vaccines have not been studied in people who are breastfeeding, there are limited data available on the:

- Safety of COVID-19 vaccines in people who are breastfeeding
- Effects of vaccination on the breastfed baby
- Effects on milk production or excretion

The vaccines do not cause infection in anyone, including the mother and baby. Since COVID-10 vaccines help to prevent infection, recent evidence has shown that those people who are breastfeeding have mRNA COVID-19 vaccines in the breastmilk which may provide some protection to the baby..

- COVID-19 Vaccines While Pregnant or Breastfeeding (CDC)