

## COVID-19 VACCINATIONS DO NOT IMPACT FERTILITY, PREGNANCY & BREASTFEEDING, BUT COVID-19 CAN

### There is **NO** evidence that any of the three COVID-19 vaccines cause infertility.

In February 2021, the American College of Obstetricians and Gynecologists (ACOG), the Society for Maternal Fetal Medicine (SMFM) and the American Society for Reproductive Medicine (ASRM) released a joint statement to announce that, "While fertility was not specifically studied in the clinical trials of the vaccine, no loss of fertility has been reported among trial participants or among the millions who have received the vaccines since their authorization, and no signs of infertility appeared in animal studies."<sup>1</sup> The American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal Fetal Medicine (SMFM) recommend the COVID-19 vaccine in pregnancy and have deemed it as "safe and effective."<sup>2,3</sup>

**In fact, when pregnant individuals get the COVID-19 vaccine they pass on protection to their babies,** which is important because they are not eligible for the vaccine. Meanwhile, pregnant individuals who contract COVID-19 are at increased risk of complications including preterm birth.

For men, the COVID-19 vaccines similarly pose no risks for fertility. But the COVID-19 virus could impact fertility.

### **Q:** Where did the myth come from?

**A:** A German researcher proposed a theory that the spike protein in the vaccine would cause women to make antibodies that would attack a protein that is essential for embryo implantation. To determine if the theory was true, researchers at Yale studied the genomic make-up of the two proteins as well as antibody production and found that the theory was not true. Additionally, infertility was not observed during vaccine trials. **Rather, 23 women in the Pfizer trial conceived.**

### **Q:** Do we have evidence that the vaccine does **NOT** cause infertility in women?

**A:** Yes. A study published in Fertility and Sterility serves as evidence that the vaccine does not cause infertility in women. In the study, women who had received either the Pfizer or Moderna vaccine and who were undergoing frozen embryo transfer were monitored to determine if their rates of fertility were less than normal fertility rates. **There was no decrease in embryo implantation and no increase in pregnancy loss.**<sup>4</sup>



**Q:** Do we have evidence that the vaccine does **NOT** cause infertility in men?

**A:** Yes. To further debunk the myth that the vaccine causes male infertility, a study published in the Journal of American Medical Association examined the sperm parameters of men before and after the Pfizer or Moderna vaccine. There was no significant decrease in sperm parameters in the individuals studied.<sup>5</sup>

In fact, the CDC points out that no vaccine has ever been shown to cause fertility issues in men or women. However, there is evidence that people who contract COVID-19 — a mild or severe case — can have a range of long-term issues, including ones that affect reproductive health.<sup>6</sup> In women, this can mean changes or irregularity in the menstrual cycle.<sup>7</sup> **Erectile dysfunction — short-term and long-term — can be a lasting effect of contracting COVID-19, like other viruses, in men of all ages.**

**Q:** Are COVID-19 vaccines safe in pregnancy and breastfeeding?

**A:** Yes. As of July 2021, over 135,000 pregnant individuals who have received the vaccine are in the CDC post-vaccination health checker and over 5,100 pregnant individuals are included in the V-Safe pregnancy registry data base. There have been no increased risk of complications or adverse events compared to the general population.<sup>8</sup> Side effects from the vaccine experienced by pregnant individuals are similar to the general population.

**Q:** Will the vaccine affect my baby?

**A:** Positively, yes. Researchers at Harvard have found that maternal antibodies created by the vaccine are found in breast milk and in the umbilical cord which means when individuals receive the vaccine during pregnancy, they are able to pass immunity to the fetus.<sup>9</sup> This provides important **protection for babies, especially since they are not able to receive the vaccine.**

**Q:** So, can COVID-19 negatively impact my pregnancy and breastfeeding?

**A:** Yes. Because the immune system is suppressed in pregnancy, pregnant individuals are at greater risk for complications if they contract COVID-19 during pregnancy. Pregnant individuals with COVID-19 are at greater risk of severe illness including increased risk of admission to the Intensive Care Unit (ICU), need for mechanical ventilation, and death. They are also at increased risk for pregnancy complications such as preterm birth. Pregnant individuals with additional co-morbidities like diabetes and hypertension are at an even greater risk of complications if they contract COVID-19 during pregnancy.



<sup>1</sup>ASRM, ACOG and SMFM Issue Joint Statement: Medical Experts Continue to Assert that COVID Vaccines Do Not Impact Fertility. ASRM Bulletin. February 5, 2021. <https://www.asrm.org/news-and-publications/news-and-research/press-releases-and-bulletins/asrm-smfm-acog-issue-joint-statement-medical-experts-continue-to-assert-that-covid-vaccines-do-not-impact-fertility/>. Retrieved August 3, 2021.

<sup>2</sup>ACOG and SMFM Recommend COVID-19 Vaccination for Pregnant Individuals. July 30, 2021. <https://www.acog.org/news/news-releases/2021/07/acog-smfm-recommend-covid-19-vaccination-for-pregnant-individuals>. Retrieved August 3, 2021.

<sup>3</sup>Practice Advisory: COVID-19 Vaccination Considerations for Obstetric–Gynecologic Care. July 30, 2021. <https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2020/12/covid-19-vaccination-considerations-for-obstetric-gynecologic-care>. Retrieved August 3, 2021.

<sup>4</sup>Morris R. S. (2021). SARS-CoV-2 spike protein seropositivity from vaccination or infection does not cause sterility. F&S reports, 10.1016/j.xfre.2021.05.010. Advance online publication. <https://doi.org/10.1016/j.xfre.2021.05.010>

<sup>5</sup>Gonzalez DC, Nassau DE, Khodamoradi K, et al. Sperm Parameters Before and After COVID-19 mRNA Vaccination. JAMA. 2021;326(3):273–274. doi:10.1001/jama.2021.9976

<sup>6</sup><https://www.cdc.gov/coronavirus/2019-ncov/vaccines/facts.html>

<sup>7</sup><https://www.cdc.gov/coronavirus/2019-ncov/long-term-effects.html>

<sup>8</sup>Shimabukuro T, et al. Preliminary Findings of mRNA COVID-10 Vaccine Safety in Pregnant Persons. NEJM. April 21, 2021. doi:10.1056/NEJMoa2104983

<sup>9</sup>Gray, K. J., Bordt, E. A., Atyeo, C., Deriso, E., Akinwunmi, B., Young, N., Baez, A. M., Shook, L. L., Cvrk, D., James, K., De Guzman, R., Brigida, S., Diouf, K., Goldfarb, I., Bebell, L. M., Yonker, L. M., Fasano, A., Rabi, S. A., Elovitz, M. A., Alter, G., ... Edlow, A. G. (2021). Coronavirus disease 2019 vaccine response in pregnant and lactating women: a cohort study. American journal of obstetrics and gynecology, S0002-9378(21)00187-3. Advance online publication. <https://doi.org/10.1016/j.ajog.2021.03.023>