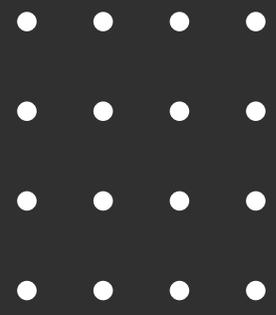




VACCINE SAFETY: PREGNANT & LACTATING WOMEN

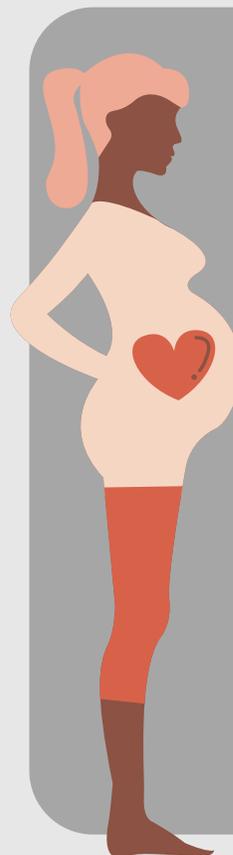


Is the COVID-19 vaccine safe for pregnant or breastfeeding mothers?

Yes! The Centers for Disease Control (CDC), American College of Obstetricians and Gynecologists (ACOG) and the Society for Maternal-Fetal Medicine (SMFM) all agree that the COVID-19 vaccination should be offered to pregnant and breastfeeding women [1]. While initial clinical trials did not include pregnant women, studies have now been conducted to confirm the vaccine is safe for pregnant and breastfeeding women, including evidence showing **no increased risk for miscarriage** [2]. The CDC has continued its commitment to widespread monitoring using multiple surveillance programs to ensure safety [3]. One of these systems, known as v-safe, reports that 158,000+ pregnant women have already been vaccinated, and 5,100+ women have become pregnant after vaccination [4].

Should someone wait to get a COVID-19 vaccine if they want to get pregnant?

No! COVID-19 vaccination **does not affect fertility**, including in-vitro fertilization (IVF) [5,6]. Vaccination also dramatically decreases the chance of infection and reduces risk of severe illness, ultimately protecting both mothers and their babies. On the other hand, getting COVID-19 can be a significant risk to both pregnant and non-pregnant women's health. Pregnant women are at increased risk for health complications during and after pregnancy due to COVID-19 infection [6,7].



Increased Risk for COVID-19 Complications for Pregnant Women:

Death	17.0x
Respiratory Distress	34.4x
Sepsis	13.6x
Shock	5.1x
Admission to ICU	3.6x
Kidney Failure	3.5x
Blood Clotting Issues	2.7x
Adverse Cardiac Event	2.2x
Preterm Labor/Delivery	1.2x

CITATIONS:

1. UC Davis Health. The truth behind COVID-19 vaccines and women's health. July 28, 2021.
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3. Center for Disease Control. Investigating the Impact of COVID-19 during Pregnancy. Updated Aug 11, 2021.
4. Center for Disease Control. V-safe COVID-19 Vaccine Pregnancy Registry. Updated September 14, 2021.
5. Male, V. Are COVID-19 vaccines safe in pregnancy?. *Nat Rev Immunol* 21, 200–201 (2021).
6. UChicago Medicine. COVID-19 vaccines and pregnancy: What you need to know if you're pregnant, trying to get pregnant, or breastfeeding. September 9, 2021.
7. Ko, JY, DeSisto, CL, Simeone, RM, et al. Adverse Pregnancy Outcomes, Maternal Complications, and Severe Illness Among US Delivery Hospitalizations With and Without a Coronavirus Disease 2019 (COVID-19) Diagnosis. *Clinical Infectious Diseases.* 2021; 73 (1): S24–S31.

PREGNANT & LACTATING WOMEN

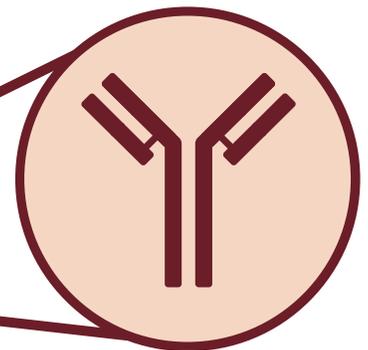
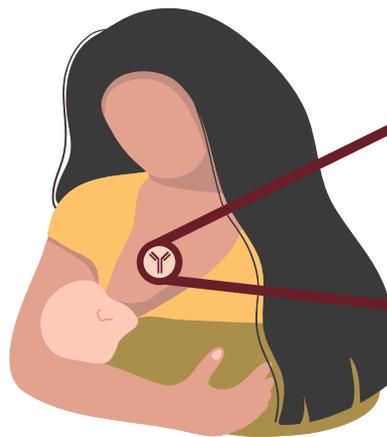
But I thought pregnant women weren't supposed to get vaccines...

Most vaccines are not recommended for pregnant women, outside of the flu, Tdap , and COVID-19 vaccine. This is because many vaccines use "live virus" technology which is potentially dangerous to a baby. **mRNA vaccines used in the Moderna and Pfizer COVID-19 vaccines are not live virus vaccines** and are non-infectious, meaning they cannot give you COVID-19. Additionally, these vaccines do not affect or interact with your own DNA in any way. While COVID-19 vaccines are relatively new, the technology behind them has been around for many years and is held to the same rigorous safety and effectiveness standards as all other types of vaccines. With COVID-19 posing larger risks for pregnant women and unborn children, vaccination is an important step in protecting the health of both mother and baby.

Will my vaccination help protect my baby from COVID-19?

Yes! Infants depend on their mothers for immunity. The vaccine itself stays near the muscle of the injection site and surrounding lymph nodes, but the antibodies it creates circulate the bloodstream [8]. These antibodies then cross the placenta during the last 3 months of pregnancy via the bloodstream or enter the breast and are passed on to the baby through breast milk [9]. Studies show this to be true for COVID-19 vaccine antibodies as well [10].

VACCINATED WOMEN TRANSFER ANTIBODIES TO FETUSES WHILE PREGNANT AND BABIES WHILE BREASTFEEDING



ANTIBODY



CITATIONS:

8. Nebraska Medicine. How long do mRNA and spike proteins last in the body? July 2, 2021.

9. National Health Service. How long do babies carry their mother's immunity? Reviewed June 9, 2021.

10. Gray KJ, Bordt EA, Atyeo C, et al. Coronavirus disease 2019 vaccine response in pregnant and lactating women: a cohort study. *Am J Obstet Gynecol.* 2021;225(3):303.e1-303.e17.