

In addressing your question about the safety of COVID-19 vaccines during pregnancy and breastfeeding, we are providing the following information:

- A. There is no information about the safety of these new vaccines during pregnancy and breastfeeding. Based upon the limited information that we have, the current vaccines are mRNA based and will be safe because no live viruses are contained in the covid-19 vaccines. Pfizer and Moderna vaccines use mRNA-1273 that are a minuscular part of the virus and this mRNA generates antibodies that protect against the viral infection.

Further, it is unlikely that during pregnancy, there will be an increased risk from this vaccination above the background risk for the mother and her baby with the exception of having severe allergies requiring the mother carries emergency treatments, e.g., EpiPen (epinephrine auto-injector).

The only two vaccines that are contraindicated for use during breastfeeding are the ones with live virus: Smallpox and Yellow Fever.

The other vaccines are safe and in many of them, there is no evidence that the virus will be present in the milk.

- B. The CDC position about the vaccination of pregnant and breastfeeding HCP now is: *Evidence suggests that pregnant women are potentially at increased risk for severe COVID-19 -associated illness and death compared to non-pregnant women, underscoring the importance of disease prevention in this population. Given the predominance of women of child-bearing potential among the healthcare workforce, a substantial number of HCP are estimated to be pregnant or breastfeeding at any given time. Currently, there are no data on the safety and efficacy of COVID-19 vaccines in these populations to inform vaccine recommendations. Further considerations around use of COVID-19 vaccines in pregnant or breastfeeding HCP will be provided once data from phase III clinical trials and conditions of FDA Emergency Use Authorization are available. (see Ref. 5).*

I am providing below with some links for you to consult. Besides, I am attaching information about the vaccines contraindicated during breastfeeding and a new article about Antivirals for COVID-19 and breastfeeding (See Ref. 3. LacMed Update) and the COVID-19 vaccine statement of the Society of Maternal Fetal Medicine.

- C. In relationship to COVID-19, the limited information we have, leads us to conclude that breastfeeding in a COVID-19 positive mother should continue because no virus has been found in milk from the few mothers tested positive to coronavirus. Besides, maternal milk protects against infections in general. Mothers with coronavirus infection should avoid direct contact with her baby, wash hands and use a facemask. Mothers should use a personal breast pump and after each pump session, a disinfection of all parts that become in contact with the milk should be done. If the baby is in NICU a healthy nurse should administer the bottle with maternal milk to the newborn.
- D. **Should you receive the vaccination for COVID-19 before you are pregnant?**
Based upon the nature of the COVID-19 vaccine, it would not be anticipated any adverse effects on reproductive capacity over and above any issues the couple may already have. The currently

is no data available at this point in time. However, based upon the above risks for COVID-19 infections during pregnancy and lactation, it is advisable to have the vaccination pre pregnancy.

REFERENCES:

1. How the Pfizer-BioNTech Vaccine Works

https://urldefense.proofpoint.com/v2/url?u=https-3A_www.nytimes.com_interactive_2020_health_pfizer-2Dbiontech-2Dcovid-2D19-2Dvaccine.html-3FreferringSource-3DarticleShare&d=DwIFAg&c=4sF48jRmVAe_CH-k9mXYXEGfSnM3bY53YSKuLUQRxhA&r=cb7nxqAk9jk8r9J4m7LvaVCMCuc0moCbbKiR_9KEjWhhaqeKglR_1AWIR3aiT0zJJ&m=YgO1HaoSCZtFA30Fz6bF4IVpFIt4mUvrobcYLkS-QZw&s=w0JFOyvSDWLT9x-T3WmJZ7LQ7QVlwd5u5F7DmWmrnlc&e=

2. Pregnant and Breastfeeding Women May Opt to Receive the Vaccine

https://urldefense.proofpoint.com/v2/url?u=https-3A_www.nytimes.com_2020_12_11_health_coronavirus-2Dvaccine-2Dpregnant-2Dbreast-2Dfeeding.html-3FreferringSource-3DarticleShare&d=DwIFAg&c=4sF48jRmVAe_CH-k9mXYXEGfSnM3bY53YSKuLUQRxhA&r=cb7nxqAk9jk8r9J4m7LvaVCMCuc0moCbbKiR_9KEjWhhaqeKglR_1AWIR3aiT0zJJ&m=Du1nlv8hdez5qEr5WHadxGfsKKI5kBJJAsTTpaJsCp8&s=vjpX3ImXIUBSLk1eNCQWMRI_SVOwpasdDKZSsnoMoWsc&e=

3. Breast Milk and COVID-19:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7523143>

4. CDC and COVID-19 Vaccines

https://urldefense.proofpoint.com/v2/url?u=https-3A_www.cdc.gov_vaccines_hcp_acip-2Dreccs_vacc-2Dspecific_covid-2D19_clinical-2Dconsiderations.html&d=DwMFaQ&c=4sF48jRmVAe_CH-k9mXYXEGfSnM3bY53YSKuLUQRxhA&r=vFBE4vwS4PD9pRmJNHZ39PWLjg0bMqN9vXV7JXCR9oCZGBhip-Hbo0F95IKVTI6k&m=3FrW6bwGjQGvGwx-Ue-l3Hf0YW1rJktU1Q0iROMo09I&s=xSJLe-mOOyK3sb96lCqmFP_RdijKzfeTC49fdiKlxjQ&e=

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/vaccination.html>

5. FDA and COVID-19

<https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines>

6. Third COVID-19 Vaccine in the works:

<https://apnews.com/article/astrazeneca-vaccine-third-cheaper-oxford-c99d26eb2946f6fde45a1edc002ff028>

7. Academy of Breastfeeding Medicine Statement

https://abm.memberclicks.net/abm-statement-considerations-for-covid-19-vaccination-in-lactation?fbclid=IwAR0LC26lCj_pJmpIHMa5QGdq9V8bN5XQsdIBYSyTXoYJMwqEP4SJIV2k5xw

8. Several Societies (ACN-M, AWHONN, NPWH, SMFM)

https://s3.amazonaws.com/cdn.smfm.org/media/2655/Joint_COVID_FAQ.pdf?fbclid=IwAR3g7v4m8-fjp5FhpyOkb-FfHunfSTfTB5QJjIRJyvj6cyh0gpoYYiWDssI

Do not hesitate to call or email MotherToBaby UR Medicine (mothertobaby@urmc.rochester.edu), if you need any additional information.

My cellphone number is (585) 363-1750 (8:00 am to 4:00 pm, Eastern time Monday to Friday).

Sincerely,

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