COVID-19 mRNA Vaccine (Moderna/Spikevax® and Pfizer/Comirnaty®)

This sheet is about exposure to COVID-19 mRNA vaccines in pregnancy and while breastfeeding. This information is based on published research. It should not take the place of medical care and advice from your healthcare provider.

What is COVID-19?

COVID-19 (Coronavirus Disease 2019) is an illness caused by a virus (called SARS-CoV-2). The virus spreads mostly by close person-to-person contact. When an infected person breathes, talks, coughs, or sneezes, the virus can spread to others who are nearby.

Having a COVID-19 infection while pregnant increases the chance of severe illness and pregnancy complications. Studies have shown that women who are up to date with COVID-19 mRNA vaccines in pregnancy are less likely to get very sick or have pregnancy complications from a COVID-19 infection than those who are not up to date.

For more information on COVID-19, please see the MotherToBaby fact sheet at https://mothertobaby.org/fact-sheets/covid-19/.

What are COVID-19 mRNA vaccines?

COVID-19 messenger RNA (mRNA) vaccines help protect against the virus that causes COVID-19. The COVID-19 mRNA vaccines approved for use in the United States are known as Moderna/Spikevax® and Pfizer/Comirnaty®. The COVID-19 mRNA vaccines do not contain live virus that can cause COVID-19. The Centers for Disease Control and Prevention (CDC) have more information about mRNA vaccines here: https://www.cdc.gov/covid/vaccines/how-they-work.html. The mRNA vaccines are not 100% effective at preventing COVID-19, but can greatly reduce the chance of getting very sick from the virus.

Talk to your healthcare provider, contact a MotherToBaby specialist, or visit the CDC website to learn if you are up to date and how to stay up to date with your COVID-19 vaccines: https://www.cdc.gov/covid/vaccines/stay-up-to-date.html. People who have a weakened immune system might need additional doses of the mRNA vaccine.

For more information on COVID-19 protein subunit vaccine, please see the MotherToBaby fact sheet at https://mothertobaby.org/fact-sheets/covid-19-protein-subunit-vaccine/.

Does getting a COVID-19 mRNA vaccine make it harder to get pregnant or affect fertility treatments?

Some women have reported changes in their menstrual cycle (period) after getting a COVID-19 mRNA vaccine, such as having a slightly longer or heavier period or starting their next period sooner than expected. Studies have found that if these changes happen, they are temporary and do not affect fertility.

Several studies of women undergoing in-vitro fertilization (IVF) found that getting a COVID-19 mRNA vaccine did not affect the function of the ovaries (the organ that releases the egg), number of oocytes (immature eggs), hormone levels, or success rates of embryo implantation. Studies involving over 3000 women who received a COVID-19 mRNA vaccine did not show an increased chance of poor IVF outcomes or reduced pregnancy rates. There is currently no recommendation to postpone fertility treatment after getting the vaccine or to avoid getting the vaccine after treatment.

I just got a COVID-19 mRNA vaccine. How long do I need to wait before I get pregnant?

There is no recommendation to wait before trying to get pregnant after getting a COVID-19 mRNA vaccine.

Does getting a COVID-19 mRNA vaccine increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Multiple studies have found that getting a COVID-19 mRNA vaccine during pregnancy does not increase the chance of miscarriage.

Does getting a COVID-19 mRNA vaccine increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born every year, about 3 out of 100 (3%) will have a birth defect. We look at research studies to try to understand if an exposure, like a COVID-19 mRNA vaccine, might increase the chance of birth defects in pregnancy. Studies have found no increased chance of birth defects when a COVID-19 mRNA vaccine is given during the first trimester of pregnancy (when the many of the fetal organs are developing).

Fever is a possible side effect of a COVID-19 mRNA vaccines. A high fever in the first trimester can increase the chance of certain birth defects. Acetaminophen is usually recommended to reduce fever during pregnancy. For more information about fever and pregnancy, see the MotherToBaby fact sheet about fever/hyperthermia at https://mothertobaby.org/fact-sheets/hyperthermia-pregnancy/.

Does getting a COVID-19 mRNA vaccine in pregnancy increase the chance of other pregnancy-related problems?

Studies have found no increased chance of pregnancy-related problems such as stillbirth, preterm delivery (birth before week 37) or low birth weight (weighing less than 5 pounds, 8 ounces [2500 grams] at birth when a COVID-19 mRNA vaccine is given anytime during pregnancy. Studies have found no increased chance of newborn complications (low Apgar scores), stay in the neonatal intensive care unit (NICU), or death of newborns when a COVID-19 mRNA vaccine is given anytime during pregnancy.

Some studies show that the chance for these complications is lower in women vaccinated during pregnancy compared to unvaccinated women. Studies also show that receiving a COVID-19 mRNA vaccine in pregnancy does not increase the chances of developing gestational diabetes or high blood pressure in pregnancy.

Does getting a COVID-19 mRNA vaccine in pregnancy affect future behavior or learning for the child?

Based on what is known about how vaccines work in the body, getting a COVID-19 mRNA vaccine is not expected to increase the chances of behavior or learning problems for the child. A study of over 100 infants exposed to COVID-19 mRNA vaccines during pregnancy found no increased chance of developmental delays at 12 months of age.

Does getting a COVID-19 mRNA vaccine during pregnancy protect the baby from the virus after delivery?

The antibodies that a person makes after getting a COVID-19 mRNA vaccine during pregnancy can pass to the developing fetus. Research has shown that more antibodies pass to the fetus after getting COVID-19 mRNA vaccines in pregnancy than after having a COVID-19 infection in pregnancy. Studies have also shown that the infants of women who became up to date with COVID-19 vaccines during pregnancy have greater protection against COVID-19 after delivery and are less likely to be hospitalized with COVID-19.

Breastfeeding and COVID-19 mRNA vaccines:

Small studies have found that mRNA from a COVID-19 mRNA vaccines is unlikely to enter the breast milk. If any small amounts of vaccine ingredients did enter the breast milk, they would most likely be destroyed in the baby's stomach. About 10% of women have reported changes in milk supply after getting a COVID-19 mRNA vaccine, but their supply returned to normal within a day or two. There is no recommendation to stop or delay breastfeeding or discard breast milk after getting a COVID-19 mRNA vaccine.

Antibodies against the COVID-19 virus have been found in the breast milk of women who have been vaccinated with mRNA vaccines. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man gets a COVID-19 mRNA vaccine, could it affect his fertility or increase the chance of birth defects?

Two studies found no differences in the amount of sperm made before and after getting a COVID-19 mRNA vaccine. Other studies of over 200 men found no difference in sperm count and motility (movement) before and after COVID-19 mRNA vaccination or compared to unvaccinated men. In general, exposures that fathers or sperm donors have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

If you have received a dose of a COVID-19 mRNA vaccine in the last 2 months while pregnant, you might be a good match for our COVID-19 mRNA vaccine study. Help us help other pregnant people. If you are interested in learning more about this study, please call 1-877-311-8972 or visit: https://mothertobaby.org/join-study/.

Please click here for references.