

COVID-19 Vaccines, mRNA (Moderna and Pfizer-BioNTech)

This sheet is about exposure to mRNA COVID-19 vaccines in pregnancy and while breastfeeding. This information is based on published research studies. 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 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 is an mRNA COVID-19 vaccine?

A messenger RNA (mRNA) COVID-19 vaccine gives the cells instructions to help the body make specific proteins. These proteins are needed to make antibodies to protect against the COVID-19 virus. The mRNA COVID-19 vaccines do not contain live virus, and do not cause COVID-19. The mRNA COVID-19 vaccines approved for use in the United States are made by Moderna (Spikevax®, mNEXSPIKE®) and Pfizer-BioNTech (Comirnaty®). While no vaccine is 100% effective at preventing COVID-19, an mRNA vaccine can greatly lower the chance of getting very sick from the virus.

Medical organizations including the American College of Nurse-Midwives (ACNM), the American College of Obstetricians and Gynecologists (ACOG), and the Society for Maternal-Fetal Medicine (SMFM) recommend that women who are planning a pregnancy, pregnant, or recently pregnant stay up to date with the latest COVID-19 vaccine. An mRNA COVID-19 vaccine can be given at any time in pregnancy.

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

Does getting an mRNA COVID-19 vaccine make it harder to get pregnant?

Some women have reported changes in their menstrual cycle (period) after getting an mRNA COVID-19 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 (the ability to get pregnant).

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 an mRNA COVID-19 vaccine.

Does getting an mRNA COVID-19 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 an mRNA COVID-19 vaccine during pregnancy does not increase the chance of miscarriage.

Does getting an mRNA COVID-19 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 an mRNA COVID-19 vaccine, might increase the chance of birth defects in pregnancy. Studies have found no increased chance of birth defects when an mRNA COVID-19 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 mRNA COVID-19 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 an mRNA COVID-19 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 an mRNA COVID-19 vaccine is given any time during pregnancy. Studies have found no increased chance of newborn complications (low Apgar scores [a simple test to check a baby's health shortly after birth]), stay in the neonatal intensive care unit (NICU), or death of newborns when an mRNA COVID-19 vaccine is given any time during pregnancy.

COVID-19 virus can increase the chance of pregnancy complications, including preterm delivery. Some studies show that the chance for pregnancy complications is lower in vaccinated women compared to unvaccinated women. Studies also show that receiving an mRNA COVID-19 vaccine in pregnancy does not increase the chances of developing gestational diabetes or high blood pressure in pregnancy.

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

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

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

When a woman who is pregnant gets an mRNA COVID-19 vaccine, her body makes antibodies that can pass to the fetus. Research shows that more antibodies are passed through vaccination than through infection. Babies born to vaccinated mothers are better protected from COVID-19 and are less likely to be hospitalized with it after birth.

Breastfeeding and mRNA COVID-19 vaccines:

Small studies have found that mRNA from a COVID-19 vaccine 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 an mRNA COVID-19 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 an mRNA COVID-19 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 an mRNA COVID-19 vaccine. Other studies of over 200 men found no difference in sperm count and motility (movement) before and after mRNA COVID-19 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/>.

Please click [here](#) for references.

Questions? Call 866.626.6847 | Text 855.999.3525 | Email or Chat at [MotherToBaby.org](https://www.MotherToBaby.org).

Disclaimer: MotherToBaby Fact Sheets are meant for general information purposes and should not replace the advice of your health care provider. MotherToBaby is a service of the non-profit Organization of Teratology Information Specialists (OTIS). Copyright by OTIS, May 1, 2025.