This sheet is about exposure to vaccines in pregnancy and while breastfeeding. This information should not take the place of medical care and advice from your healthcare provider.

**What are vaccines?**

Vaccines help protect you from diseases. Vaccines cause your body's immune system to make antibodies against bacteria or viruses. Once these antibodies are made, your body has an easier job of stopping you from getting the disease if you are exposed to these bacteria or viruses in the future. Most vaccines are given by injection (shot), but some can be taken orally (by mouth) or giving with a nasal spray.

**What are the different types of vaccines?**

A “live” vaccine is made from viruses or bacteria that have been weakened, but not killed. Live vaccines generally provide long-lasting protection with a single dose. Given the small possibility that a live vaccine might cause the disease itself, live vaccines are not routinely given to pregnant women.

An “inactivated” vaccine is made from viruses or bacteria that have been killed. An inactivated vaccine cannot cause the disease that it is given to prevent. Inactivated vaccines may require multiple doses and periodic boosters to provide the best protection.

Other kinds of vaccines, such as messenger RNA (mRNA) and viral vector vaccines, use only certain material from the virus. These vaccines cannot cause the diseases they are given to prevent. These vaccines might require one or two doses, and some might require periodic booster shots to provide the best protection.

**Are there any vaccines that are recommended in pregnancy?**

It is recommended that pregnant people receive the seasonal inactivated flu vaccine (flu shot). Pregnant people have a higher chance of developing serious complications from the flu. Getting the seasonal inactivated flu vaccine (flu shot) is the best way to protect yourself and your baby. You can get the flu vaccine anytime during your pregnancy. For more information, please see the MotherToBaby fact sheet on the Seasonal Influenza Vaccine (Flu Shot) at https://mothertobaby.org/fact-sheets/vaccines-pregnancy/.

The Tdap vaccine is also recommended in pregnancy. You can get the Tdap vaccine anytime during pregnancy; but getting it during the third trimester (between weeks 27-36) may help protect your baby from illness after being born. For more information, please see the MotherToBaby fact sheet on the Tetanus, Diphtheria and Pertussis (Tdap) Vaccine at https://mothertobaby.org/fact-sheets/tetanus-diphtheria-pertussis-tdap-vaccine-pregnancy/.

The American College of Obstetricians and Gynecologists (ACOG), the American Society for Reproductive Medicine, and the Society for Maternal-Fetal Medicine all recommend that people who are pregnant be vaccinated against COVID-19. Pregnant people are at increased risk for severe illness and are more likely to deliver preterm (before 37 weeks) if they are infected with COVID-19 during pregnancy. For more information, please see the MotherToBaby fact sheet on COVID-19 vaccines here: https://mothertobaby.org/fact-sheets/covid-19-vaccines/.

The need for other vaccines during pregnancy will vary. Talk to your healthcare providers about the potential risks and benefits of any other vaccines you might need.

**Are there any vaccines that should be avoided, if possible, in pregnancy?**

Live vaccines are usually not given in pregnancy because of the small possibility that the person who is pregnant or the developing baby could get the disease from the vaccine. However, if there is a good chance of exposure to a bacteria or virus that would be high risk for complications, the benefits of getting a live vaccine might outweigh any risks.

If you require a specific vaccine, contact MotherToBaby for more information. You can also refer to recommendations from the Centers for Disease Control and Prevention (CDC): https://www.cdc.gov/vaccines/pregnancy/hcp/guidelines.html.
**Is it ok for my child to be vaccinated while I am pregnant?**

A child’s vaccine does not increase risk to other people around them, including people who are pregnant. In addition, if you have received the recommended vaccines during your lifetime, you are highly protected from becoming infected by others.

**Can vaccines make it harder for me to become pregnant?**

Limited studies on this question have not shown that vaccines would make it harder to become pregnant.

**Do vaccines increase the chance for miscarriage?**

Miscarriage can occur in any pregnancy. Many studies have not shown an increased chance of miscarriage.

**Do vaccines increase the chance of birth defects?**

Every pregnancy starts out with a 3-5% chance of having a baby with a birth defect. This is called the background risk. Studies on vaccines in pregnancy have not shown an increased chance of any pattern of birth defects.

**Do vaccines cause other pregnancy complications?**

Studies have not shown that vaccines cause other pregnancy complications.

**Does getting vaccines cause long-term problems in behavior or learning for the baby?**

Based on the studies reviewed, vaccination during pregnancy is not expected to cause long-term problems for the baby.

**What about thimerosal in vaccines?**

People who are pregnant can receive vaccines containing thimerosal. Thimerosal is a preservative. It is found in very small amounts in some vaccines to help stop the growth of harmful bacteria in the vaccine. Large studies have not found thimerosal to cause any harmful effects. The CDC answers questions about thimerosal here: https://www.cdc.gov/vaccinesafety/concerns/thimerosal/index.html.

**Can I get vaccines if I am breastfeeding?**

Studies have shown that most live and inactivated vaccines that are routinely given in the United States and Canada are not harmful during breastfeeding. Smallpox and yellow fever vaccines should not be given to a person who is breastfeeding. Be sure to talk to your healthcare provider about all your breastfeeding questions. You can also refer to recommendations from the CDC: https://www.cdc.gov/breastfeeding/breastfeeding-special-circumstances/vaccinations-medications-drugs/vaccinations.html.

**Can vaccines affect a male’s fertility or increase the chance of birth defects in a partner’s pregnancy?**

There is no evidence to suggest that vaccines affect the sperm or are transmitted to the developing baby through the semen. 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 on Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.