Methotrexate

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

What is methotrexate?
Methotrexate is a medication that can stop the growth of cells and can interfere with the immune system (the system the body uses to fight off infections). Methotrexate is prescribed to treat many conditions, including cancers and autoimmune conditions. Methotrexate is also used to treat ectopic pregnancies (ones that grow outside the uterus). Methotrexate is prescribed in a range of doses from low doses to high doses. Some brand names for methotrexate are: Otrexup®, Trexall®, Rheumatrex®, and Rasuvo®.

Methotrexate decreases the body’s ability to use folic acid. During pregnancy, folic acid is important for normal development of the baby. If you have recently stopped taking methotrexate and are planning to get pregnant, talk with your healthcare provider about taking folic acid and what dose you should take.

How long does methotrexate stay in the body?
Methotrexate is mostly cleared from the body of a non-pregnant adult within one week after the last dose is taken. However, the time for methotrexate to leave the body can vary from person to person and also by dose. Certain medications can slow down the clearance of methotrexate. Individuals who have reduced kidney function or a condition that leads to extra body fluid may also clear methotrexate more slowly.

I am currently taking methotrexate, but would like to become pregnant. How long do I need to wait to become pregnant after I stop taking methotrexate?
Some healthcare providers suggest waiting 1 to 3 months after stopping methotrexate to ensure the medication has been cleared from the body. However, there are no reports of babies being born with methotrexate-related birth defects when mom stops taking this medication before conception.

If I get pregnant while taking methotrexate, what should I do?
Contact your healthcare provider right away so they can discuss your specific situation and any prenatal tests or screening available.

Will my past methotrexate use make it harder for me to get pregnant?
One study on infertility patients treated with methotrexate for ectopic pregnancy suggested a decreased number of eggs available for fertilization, however this was temporary. Other studies have not shown an increased chance of problems with fertility with use of methotrexate.*

Because methotrexate is known to increase the chance for birth defects when taken in the first trimester, women who are actively trying to become pregnant should not be taking methotrexate.

Does taking methotrexate increase the chance for miscarriage?
Miscarriage can occur in any pregnancy. Small studies have reported an increased chance for miscarriage. Since methotrexate can be used to abort pregnancies or treat ectopic pregnancies, it seems likely that methotrexate use in early pregnancy would increase the chance of a miscarriage.

Does taking methotrexate in the first trimester increase the chance of birth defects?
In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called
her background risk. Taking methotrexate in the first trimester could increase the chance for a specific pattern of birth defects. This pattern of birth defects includes malformations of the infant’s head, face, limbs, and bones. Poor growth, developmental delay, and intellectual disability have also been described. For other birth defects, like heart defects and oral clefts, the evidence is currently not strong enough to show that methotrexate is the cause.

Limited evidence suggests that a pregnant woman will have a chance of having a baby with methotrexate-related birth defects if she takes 10 mg or more of methotrexate per week between 6 and 8 weeks after conception (8 to 10 weeks after the first day of her last menstrual period). More research is needed on the chances of birth defects related to specific timing and dose of methotrexate to draw firm conclusions.

One 2009 review paper reported no increase in miscarriage or birth defect rates in 101 women with rheumatoid arthritis who were exposed to 5-25mg/week of methotrexate in the first trimester. While reassuring, this paper does not mean there is no chance of birth defects when using low dose methotrexate in the first trimester.

**Could taking methotrexate in the second or third trimester cause other pregnancy complications?**

Methotrexate should continue to be avoided after the first trimester. During the second and third trimesters of pregnancy, the baby is still growing and the brain is still developing. Poor growth and learning problems have been associated with methotrexate, so use after the first trimester is a potential concern.*

**Can I breastfeed while taking methotrexate?**

There are no studies looking at the effects of methotrexate in the breastfed infant. Methotrexate passes into breast milk in small amounts. Because of its toxic properties and possible buildup of the drug in an infant’s body, some providers do not recommend methotrexate in breastfeeding.

However, some breastfeeding experts believe that weekly low-dose methotrexate, such as the dose used for the treatment of rheumatoid arthritis, has a low chance of problems for the breastfed infant. If a woman and her healthcare provider decide to continue low-dose methotrexate treatment while breastfeeding, monitoring of the baby’s blood count is suggested. Talk to your healthcare provider about all your breastfeeding questions.

**If a man takes methotrexate, could it affect his fertility (ability to get his partner pregnant) or increase the chance of birth defects in the baby?**

Methotrexate may cause an increased chance of infertility, not birth defects. Low sperm count has been seen in some men using methotrexate. Most of these men were using high doses of the medication, as well as other medications to treat cancer. Sperm levels returned to normal after the men stopped taking methotrexate. Men who need to take methotrexate as part of cancer treatment may want to consider banking sperm prior to treatment.

There are no reports suggesting that men who use methotrexate at the time of conception are more likely to father a baby with a birth defect. Four studies noted no increase in birth defects in the children of 65 men who had taken methotrexate around the time of conception. However, due to general concern rather than actual risks, some healthcare providers recommend that men wait at least 3 months after stopping methotrexate before trying to conceive. For more information, please see the MotherToBaby fact sheet Paternal Exposures and Pregnancy at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/.

* Section Updated May 2020

Please click here for references.