Metformin

This sheet is about exposure to metformin in pregnancy and while breastfeeding. This information is based on published research studies. This information should not take the place of medical care and advice from your healthcare provider.

What is metformin?

Metformin is a medication that has been used to treat type 2 diabetes, insulin resistance in polycystic ovary syndrome (PCOS), obesity (high body mass index (BMI)), and gestational diabetes. It is sold under brand names including Glucophage®, Glumetza®, and Fortamet®.

Sometimes when women find out they are pregnant, they think about changing how they take their medication, or stopping their medication altogether. However, it is important to talk with your healthcare providers before making any changes to how you take this medication. Your healthcare providers can talk with you about the benefits of treating your condition and the risks of untreated illness during pregnancy.

High blood sugar levels before and during pregnancy can increase the chance of birth defects and other complications. For more information about diabetes during pregnancy, please see the MotherToBaby fact sheets on Type 1 and Type 2 diabetes at https://mothertobaby.org/fact-sheets/type-1-and-type-2-diabetes/ and gestational diabetes at https://mothertobaby.org/fact-sheets/diabetes-pregnancy/.

I take metformin. Can it make it harder for me to get pregnant?

It is not known if metformin can make it harder to get pregnant. Metformin is often used to treat PCOS, a condition that can make it harder to get pregnant. Metformin may improve ovulation and increase the chance of pregnancy in some women with PCOS.

Does taking metformin increase the chance of miscarriage?

Miscarriage is common and can occur in any pregnancy for many different reasons. Metformin is not expected to increase the chance of miscarriage. Diabetes that is not well-controlled in the first trimester of pregnancy can increase the chance of miscarriage.

Does taking metformin increase the chance of birth defects?

Birth defects can happen in any pregnancy for different reasons. Out of all babies born each 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 metformin, might increase the chance of birth defects in a pregnancy.

Taking metformin during pregnancy is not expected to increase the chance of birth defects. Diabetes that is not well-controlled in the first trimester of pregnancy can increase the chance of having a baby with a birth defect.

Does taking metformin in pregnancy increase the chance of other pregnancy-related problems?

It is not known if taking metformin can increase the chance of other pregnancy-related problems, such as preterm delivery (birth before week 37 of pregnancy) and low birth weight (weighing less than 5 pounds, 8 ounces [2,500 grams]). Some studies have suggested that taking metformin to treat gestational or type 2 diabetes during pregnancy might increase the chance of preterm delivery, low birth weight, and infants who are small for gestational age (born smaller than expected). Other studies have not reported an increased chance of these outcomes.

Does taking metformin in pregnancy affect future behavior or learning for the child?

Studies have not found clear long-term effects in children exposed to metformin during pregnancy.

Breastfeeding while taking metformin:

Metformin passes into breast milk in very small amounts. Studies have not found problems in breastfed infants. Metformin should be used with caution in newborns, premature infants, or infants with kidney problems because their

kidneys may not remove the medication from the body as well as the kidneys of older infants or infants without kidney problems. Be sure to talk to your healthcare provider about all your breastfeeding questions.

If a man takes metformin, could it affect his fertility or increase the chance of birth defects?

It is not known if metformin could affect men's fertility (ability to make healthy sperm) or increase the chance of birth defects. Some studies suggest metformin may lower testosterone, while others suggest it may improve sperm production by helping control insulin levels. One study found a possible increase in genital defects in babies after fathers used metformin in the 3 months before conception, but another study of about 1,700 children found no increased risk of birth defects. For more general information, please see the MotherToBaby fact sheet Paternal Exposures at https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/.

Please click here for references.

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