



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

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Diabetes and Gestational Diabetes

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. This sheet talks about whether you may increase the risk for birth defects over that background risk. This information should not take the place of medical care and advice from your health care provider.

What is diabetes?

Diabetes is a medical condition in which the body either does not make enough insulin or cannot use insulin correctly. Insulin is a hormone in the blood that is necessary for providing our cells with energy to function. Insulin helps sugar (glucose) move from the bloodstream into the cells. When glucose cannot enter our cells, it builds up in the blood (hyperglycemia). These high sugar levels can lead to damage of organs like the eyes and kidneys, and damage blood vessels and nerves.

There are different classes of diabetes. Some people have Type 2 diabetes (once called adult onset diabetes). This means that the body does not produce enough insulin or the insulin is not able to work well. In contrast, people with Type 1 diabetes (once called juvenile-onset diabetes or insulin-dependent diabetes) have a condition where the body does not produce any insulin at all. People with Type 1 diabetes need insulin injections and close monitoring to control their blood sugar levels.

I have diabetes and I am planning on getting pregnant. Is there anything I need to know?

It is recommended that you speak with your health care providers *before* becoming pregnant. This will help determine the best plan of care to keep your blood glucose levels under control before and during pregnancy. A blood test called hemoglobin A1c (glycosated hemoglobin) can be done to estimate glucose control over the past 2-3 months. Ideally, this level should be within the normal range *before* pregnancy. Some health care providers will recommend additional home blood glucose testing to check the sugar levels more often during pregnancy.

Women with diabetes should also work with their health care providers and nutritionists to develop a personalized diet and exercise plan before pregnancy.

Does maternal diabetes cause birth defects?

Most babies born to women with diabetes are not born with birth defects. Studies have shown that women who have well-controlled diabetes before becoming pregnant and who also maintain low glucose levels throughout the pregnancy do not have an increased chance for having a baby born with birth defects.

However, high glucose levels during pregnancy increase the chance that a baby will be born with birth defects. High glucose levels have the greatest effect early in pregnancy, possibly before a woman knows she is pregnant. For pregnant women with poor diabetic control, the chance for a baby to be born with birth defects is about 6-10%. For those with extremely poor control in the first trimester, there may be up to a 20% chance for birth defects. Some of the associated birth defects include spinal cord defects (spina bifida), heart defects, skeletal defects, and defects in the urinary, reproductive, and digestive systems.

Does diabetes lead to any pregnancy complications?

Yes. Women whose glucose levels are not in control have an increased chance for miscarriage and stillbirth. There is also a higher chance of pre-eclampsia (dangerously high blood pressure), excess amniotic fluid around the baby (polyhydramnios), and preterm delivery. Babies born to women with diabetes also have an increased chance of having breathing difficulties, low blood sugar (hypoglycemia) and jaundice (yellowish skin) at birth.

Mothers with diabetes are more likely to have large babies, some weighing over 10 pounds. When this occurs,

the health care provider may advise the woman to deliver the baby by cesarean section rather than by vaginal delivery in order to reduce the chance of injuries to the mother and baby. Babies of mothers with diabetes can also be small for their age. Chances for growth complications are lower when women have control of their diabetes.

Chances for pregnancy complications related to diabetes may be more likely among women with type 1 diabetes. Women with type 1 or type 2 diabetes who also have other medical issues such as high blood pressure or obesity also have a slightly higher chance for pregnancy complications.

What kinds of tests are recommended during pregnancy for women with diabetes?

Your healthcare providers will follow your health and the health of the developing baby closely during the pregnancy. They will discuss the appropriate screening tests for your pregnancy. Some screening options that might be discussed are:

- **A test of maternal blood** (called the AFP test, triple or quad screen) measures certain proteins the baby makes that cross into the mother's blood. The levels of these proteins can give information on a baby's chances of having certain birth defects such as spina bifida.
- **Ultrasounds**, such as a targeted fetal anatomy scan, a fetal echocardiogram, fetal growth ultrasound monitoring, and/or fetal umbilical artery Doppler. Ultrasounds use sound waves to create a picture of the baby. These screens can look at the baby, the placenta, and the fluid around the baby.

Your health care provider will likely discuss other screening tests to monitor your diabetes and the pregnancy such as blood tests, urine tests, non-stress tests and taking your blood pressure.

I have to take medications for diabetes. Should I stop?

No. It is not recommended to stop medications that treat diabetes without talking to your health care team because uncontrolled diabetes can cause pregnancy complications. Talk with your healthcare provider if you found out that you are pregnant. Let them know about your pregnancy and discuss the benefits and risks of the particular medication(s) that you are taking. You can also discuss your medications with MotherToBaby by calling 866-626-6847, or by email or chat through our website: <https://mothertobaby.org/>.

I am 26 weeks pregnant and was told I have gestational diabetes. How will this affect my baby?

Gestational diabetes is diabetes that starts during pregnancy, generally between 24-28 weeks. Like other types of diabetes, gestational diabetes affects how your cells use glucose.

Most pregnant women are screened for gestational diabetes by drinking a glucose solution and having their blood glucose level tested one hour later. If this test is abnormal, more testing may be done to verify whether a woman really has gestational diabetes. Most women with gestational diabetes do not have symptoms, but some may experience extreme thirst, frequent urination, blurred vision, or fatigue.

Most women with gestational diabetes can control blood glucose levels with dietary changes and exercise. Others will need to take oral medications or insulin. For some women with gestational diabetes, blood glucose levels return to normal after pregnancy. However, about 50% of women with a history of gestational diabetes will develop diabetes at some point in the future.

Because gestational diabetes typically occurs late in the second trimester when the baby's body is already formed, it does not usually increase the chance of birth defects. Gestational diabetes is, however, associated with a chance for delivering a large baby. If gestational diabetes is not well controlled, there is an increased chance for the baby to have hypoglycemia and breathing problems at birth.

In rare cases where gestational diabetes is present in the first trimester, there may be a small increased chance for birth defects similar to that seen with other forms of diabetes. It is not clear whether gestational diabetes truly increases these risks, or whether the women in these studies simply had diabetes before the pregnancy that had not previously been identified.

If I have diabetes will I be able to breastfeed my baby?

Yes, but diabetic mothers should make sure their glucose levels are well controlled when breastfeeding. Some research has found that high maternal glucose can overflow into the breast milk as sugar. This could cause hypoglycemia and increased food seeking behavior in the infant.

Diabetes can slow down the production of milk. Insulin is necessary for milk production, so this may partly explain why women with diabetes are slow to produce milk.

There are many health benefits of breastfeeding and mothers with diabetes should not be discouraged from breastfeeding. Some suggest that breastfeeding may lower the chance of your child developing diabetes later in life and help to avoid childhood obesity.

I take medication for my diabetes. How will breastfeeding affect the health of my baby?

Insulin is a normal part of breastmilk, but it does not cross over into breast milk in large amounts. Mothers using oral medications to treat their diabetes should monitor the baby for signs of hypoglycemia. Women can call MotherToBaby at 866-626-6847 for information on specific medications and breastfeeding. If you suspect that the baby has symptoms, contact the child's health care provider.

How will breastfeeding affect my blood sugar levels?

Some mothers have experience reduced insulin requirements while breastfeeding. Mothers with Type 1 diabetes will often experience lowered blood sugar after nursing. Eat a snack with carbohydrates and protein prior to nursing to help avoid low blood sugars. Keep in mind with any type of diabetes, your blood sugar may rise and/or fall as you nurse.

What if the father of the baby has diabetes?

It is possible that a man with diabetes could have a harder time getting their partner pregnant (fertility problems). However, there is no evidence to suggest that a father's medications he uses to treat diabetes would cause birth defects in a partner's pregnancy. In general, a father's exposure is unlikely to increase the risk to a pregnancy because, unlike the mother, the father does not share a blood connection with the developing baby. For more information, please see our Paternal Exposures fact sheet at <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/>.

References Available By Request

October, 2017