

## Information Sheet: Gestational Diabetes

### *What is gestational diabetes?*

Pregnant women who have never had diabetes before but who have high blood sugar (glucose) levels during pregnancy are said to have gestational diabetes. Gestational diabetes affects about 4% of all pregnant women - about 135,000 cases of gestational diabetes in the United States each year.

### *What causes gestational diabetes?*

The placenta supports the baby as it grows. Human placental lactogen, a hormone developed by the placenta blocks the action of the mother's insulin in her body. This pregnancy induced insulin resistance helps to maintain the higher energy needs required by the pregnancy. Although many pregnant women have higher glucose levels than when they are not pregnant, for some, the insulin resistance makes it hard for the mother's body to use insulin. She may need up to three times as much insulin.

Gestational diabetes starts when your body is not able to make and use all the insulin it needs for pregnancy. Without enough insulin, glucose cannot leave the blood and be changed to energy. Glucose builds up in the blood to high levels. This is called hyperglycemia.

### *What are the risks of having gestational diabetes?*

Gestational diabetes affects the mother in later pregnancy, after the baby's body has been formed, but is still growing. Because of this, gestational diabetes does not cause the kinds of birth defects sometimes seen in babies whose mothers had diabetes before pregnancy.

However, untreated or poorly controlled gestational diabetes can have negative affects on a baby. When a mother has gestational diabetes, her pancreas works overtime to produce insulin, but the insulin does not lower your blood glucose levels. Although insulin does not cross the placenta, glucose and other nutrients do. Extra blood glucose crosses the placenta, giving the baby high blood glucose levels. This causes the baby's pancreas to make extra insulin to get rid of the blood glucose. Since the baby is getting more energy than it needs to grow and develop, the extra energy is stored as fat. This can lead to macrosomia or large baby. Babies with macrosomia may present challenging births. These challenges include second stage of labor, shoulder dystocia and fetal distress. Because of the extra insulin made by the baby's pancreas, newborns may have very low blood glucose levels at birth and are also at higher risk for breathing problems. Babies with excess insulin become children who are at risk for obesity and adults who are at risk for type II diabetes.

Gestational diabetes also has risks for the mother. Because her body is under increased physical stress, she is at higher risk of hypertension, toxemia, and of developing type II diabetes later in life.

### *Am I at risk for gestational diabetes?*

Risk factors for gestational diabetes include:

- A family history of type II (adult-onset) diabetes
- Maternal age - a woman's risk factor increases the older she is
- Ethnic background (those with higher risk factors include African-Americans, Native Americans and people of Hispanic/Latin decent)
- Obesity
- Gestational diabetes in a previous pregnancy
- A previous pregnancy that resulted in a child with a birth weight of 9 pounds or more
- Smoking doubles the risk of gestational diabetes

#### *How do I know that I have gestational diabetes?*

Frequently women with gestational diabetes have no signs or symptoms. However, possible symptoms include increased thirst, increased urination, fatigue, nausea and vomiting, bladder and yeast infection, and blurred vision.

The only way to know for certain is to be tested for gestational diabetes. Generally a test for gestational diabetes is carried out between the 24th and 28th week of pregnancy. There are several tests intended to identify gestational diabetes in pregnant women. Each test has its benefits and disadvantages.

**Random glucose level:** This test can be done at any time of day and without fasting. As the name suggests, it is a glucose level at any random time during a day. The test consists of obtaining a drop of blood taken from a finger prick. The sample of blood can be read on a hand held machine in your home or midwife's office. The advantages are that it requires very little blood and does not require you to fast. The disadvantages include, pinching from the finger stick and possible infection at the site.

**Random plasma glucose level:** This test like the random glucose level can be done at any time and without fasting. Instead of a finger prick, a blood draw is taken and tested. A plasma glucose level of >200 mg/dl is diagnosis of diabetes. The disadvantage of this test is that blood needs to be drawn and causing possible pain, dizziness, and infection at the needle puncture site.

**Screening glucose challenge:** This screening test is performed between 26-28 weeks and is considered, by the medical community, to be a standard test performed during the second trimester of pregnancy. This test is performed by giving 50 grams of a glucose drink and then drawing a blood sample one hour later to measure the level of blood glucose present. The test should be done in the morning after an overnight fast of between 8 and 12 hour and after at least 3 days of unrestricted diet and unlimited physical activity. A blood sugar level greater than 140 mg/dl is considered positive for gestational diabetes. The disadvantages of this test are that fasting can be dangerous to your and your baby's health, the oral glucose drink with spike your blood rapidly and drop quickly, and blood needs to be drawn causing possible pain, dizziness, and infection at the needle puncture site.

Oral glucose tolerance test: Similar to the oral glucose tolerance test, this test should be done in the morning after an overnight fast of between 8 and 12 hour and after at least 3 days of unrestricted diet and unlimited physical activity. Before giving 100 grams of oral glucose drink, a blood draw is taken for a fasting glucose level. After drinking the oral glucose blood is drawn at 1 hour, 2 hours, and 3 hours. The following are the values are considered to be positive for gestational diabetes during the glucose tolerance test:

Fasting Blood Glucose Level=95 mg/dl  
1 Hour Blood Glucose Level=180 mg/dl  
2 Hour Blood Glucose Level=155 mg/dl  
3 Hour Blood Glucose Level=140 mg/dl

*What do I do if I have gestational diabetes?*

Treatment for gestational diabetes focuses on keeping blood glucose levels in the normal range. Often, gestational diabetes can be managed through a combination of diet and exercise. If that is not possible, it can be treated with insulin, in a similar manner to diabetes mellitus.

Diet suggestions:

1. No simple sugars
2. No fruit for breakfast or bedtime
3. No more than two serving of fruit per day
4. Fresh fruit only. No fruit juice or dried fruit.
5. Protein with each meal and snack
6. No artificial sweeteners except stevia

Regular exercise helps combat insulin resistance by allowing the body to use glucose without extra insulin.

After pregnancy maintain a fit body weight. This will help reduce the risk of type II diabetes.

*Where can I find more information?*

American Diabetes Association

<http://www.diabetes.org/gestational-diabetes.jsp>