

Gestational Diabetes Mellitus (GDM)

Check your blood glucose four times a day

- First thing in the morning
- 1 or 2 hours after each meal (ask your doctor which they prefer)

Goals for blood glucose levels

- Fasting blood glucose < 95 mg/dL
- 1 hour after the first bite of food <140 mg/dL
- 2 hours after the first bite of food <120 mg/dL

Goal for A1C: <6.5%

Watch your carbohydrate intake (but do not eliminate carbohydrates)

- Breakfast 15-30 grams
- Snack 15-30 grams
- Lunch 30-60 grams
- Snack 15-30 grams
- Dinner 30-60 grams
- Snack 15-30 grams

Choose high fiber complex carbohydrates most often.

Include protein and fat at each meal and snack to improve blood glucose control.

You do not need to watch your intake of protein and non-starchy vegetables.

Limit portions of fats only if you are gaining too much weight.

Limit fruit intake – none in the morning and limit to one portion at a time.

Try to take a 10-20 min walk after eating if you are able to.

Keep a detailed record of what you are eating, your blood glucose levels, and your physical activity.

What is GDM?

Gestational Diabetes occurs when hormones produced during pregnancy make insulin less effective, a condition referred to as insulin resistance. Glucose builds up in the blood instead of being absorbed by the cells. Gestational diabetic symptoms usually disappear following delivery. Approximately 3 to 8 percent of all pregnant women in the United States are diagnosed with gestational diabetes.

What causes GDM?

Although the cause of GDM is not known, there are some theories as to why the condition occurs.

The placenta supplies a growing fetus with nutrients and water, and also produces a variety of hormones to maintain the pregnancy. Some of these hormones (estrogen, cortisol, and human placental lactogen) can have a blocking effect on insulin. This is called contra-insulin effect, which usually begins about 20 to 24 weeks into the pregnancy.

As the placenta grows, more of these hormones are produced, and the risk of insulin resistance becomes greater. Normally, the pancreas is able to make additional insulin to overcome insulin resistance, but when the production of insulin is not enough to overcome the effect of the placental hormones, gestational diabetes results.

What are the risks factors associated with GDM?

Although any woman can develop GDM during pregnancy, some of the factors that may increase the risk include:

- Overweight or obesity
- Family history of diabetes
- Having given birth previously to an infant weighing greater than 9 pounds
- Age (women who are older than 25 are at a greater risk for developing gestational diabetes than younger women)
- Race (women who are African-American, American Indian, Asian American, Hispanic or Latino, or Pacific Islander have a higher risk)
- Prediabetes, also known as impaired glucose tolerance

How is GDM diagnosed? In pregnant women not known to have diabetes, GDM testing should be performed at 24 to 28 weeks of gestation. In addition, women with diagnosed GDM should be screened for persistent diabetes 6 to 12 weeks postpartum. It is also recommended that women with a history of GDM undergo lifelong screening for the development of diabetes or prediabetes at least every three years.

What is the treatment for GDM?

Treatment for gestational diabetes focuses on keeping blood glucose levels in the normal range.

Treatment may include:

- Diet and Exercise
- Daily blood glucose monitoring
- Medication or Insulin

Possible complications for the baby

The complications of GDM are usually manageable and preventable. The key to prevention is careful control of blood glucose levels just as soon as the diagnosis of diabetes is made.

Infants of mothers with gestational diabetes are vulnerable to several chemical imbalances, such as low serum calcium and low serum magnesium levels, but, in general, there are two major problems of gestational diabetes: macrosomia and hypoglycemia:

- **Macrosomia.** Macrosomia refers to a baby who is considerably larger than normal. All of the nutrients the fetus receives come directly from the mother's blood. If the maternal blood has too much glucose, the pancreas of the fetus senses the high glucose levels and produces more insulin in an attempt to use this glucose. The fetus converts the extra glucose to fat. Even when the mother has gestational diabetes, the fetus is able to produce all the insulin it needs. The combination of high blood glucose levels from the mother and high insulin levels in the fetus results in large deposits of fat which causes the fetus to grow excessively large.
- **Hypoglycemia.** Hypoglycemia refers to low blood glucose in the baby immediately after delivery. This problem occurs if the mother's blood glucose levels have been consistently high, causing the fetus to have a high level of insulin in its circulation. After delivery, the baby continues to have a high insulin level, but it no longer has the high level of glucose from its mother, resulting in the newborn's blood glucose level becoming very low. The baby's blood glucose level is checked after birth, and if the level is too low, it may be necessary to give the baby glucose intravenously.

Blood glucose is monitored very closely during labor. Insulin may be given to keep the mother's blood glucose in a normal range to prevent the baby's blood glucose from dropping excessively after delivery.