GESTATIONAL DIABETES

Gestational Diabetes is a type of diabetes that affects about 4% of pregnant women in the United States. Like other types of diabetes, the body is not able to make enough insulin to convert blood sugar (glucose) into energy for use by the body's cells or the insulin produced is not effective in lowering the glucose level. This leads to abnormally high glucose levels, which can result in problems for both the mother and the baby. In gestational diabetes:

- The placenta (organ that provides nutrition to the baby) produces hormones that prevent the mother's insulin from lowering the blood glucose levels
- The mother is unable to produce enough insulin to lower the blood sugar levels; pregnancy requires up to 3 times more insulin than normal.
- Develops in the 20th to 24th week of pregnancy; diagnosed usually by the 24th to 28th week

Some women may be at greater risk to develop gestational diabetes if 25 years or older; have a family history of diabetes; are overweight before becoming pregnant; if Black, Hispanic or American Indian; had gestational diabetes with previous pregnancy; or if had a previously complicated pregnancy like a stillbirth or baby weighing more than 9 pounds.

Complications for the baby *may* include:

- Macrosomia - Excessive birth weight (9 lbs 14 oz or more) which makes delivery very difficult or results in Caesarean delivery
- Shoulder dystocia - Baby is too large to fit through the birth canal, leading to injuries when attempts are made to free the baby
- Hypoglycemia - Babies born to mothers with gestational diabetes may develop hypoglycemia (abnormally low blood sugar levels), shortly after birth due to receiving large amounts of blood sugar from the mother
- Respiratory distress syndrome (RDS) - Babies born to mother's with gestational diabetes are at risk for being born prematurely. This make them more likely to develop RDS which makes breathing difficult for the infant. Premature infants lack a coating in the lungs that prevent them from collapsing every time the baby breathes.
- Jaundice - Yellowing of skin and whites of the baby's eyes due to an underdeveloped liver that cannot break down bilirubin, a byproduct of recycling old or damaged red blood cells
- Stillbirth or death - Mothers with undiagnosed gestational diabetes have an increased chance of suffering a stillbirth or death of the newborn

Complications for the mother *may* include:

- Preeclampsia - Abnormal increases in blood pressure that if left untreated, can result in serious complications for both mother and unborn baby
- Delivery by Caesarean - Increased risk that the delivery will be surgical
- Gestational diabetes in future pregnancies - Likely to develop in future pregnancies
- Type 2 diabetes - More than likely to develop Type 2 Diabetes as they get older

Symptoms *may* include:

(A majority of women do not report any signs or symptoms with gestational diabetes. If they do occur they may include:)

- Excessive thirst
- Increased urination

What *your doctor* can do:

- Diagnose the problem by asking about your symptoms and performing a physical exam
- Order laboratory tests including a glucose challenge test. This test, which is usually ordered between the 24th and 28th week of pregnancy, involves drinking a glucose solution, waiting an hour, drawing blood and evaluating the results. Blood sugar levels greater than 140 mg/dl on 2 separate tests, confirms gestational diabetes
- Continue to monitor blood sugar levels and body weight throughout pregnancy
- Recommend consults with a registered dietician or diabetes educator for help with meal planning
- Recommend a consult with an endocrinologist (diabetes specialist) or doctor who specializes in high-risk pregnancies as necessary.

What *you* can do:

- Follow-up with your doctor regularly if diagnosed with gestational diabetes, especially during the final three months of the pregnancy to monitor blood sugar levels closely
- If your doctor recommends it, check your blood sugar regularly with a *glucometer*, a blood sugar home test kit. Provide these results to your doctor during your office visits. Blood sugar goals include: Before breakfast $\leq$95 mg/dl, 1 hour after meals $\leq$140 mg/dl, and $\leq$120 mg/dl
- Follow diet recommendations per physician and registered dietician. Examples of guidelines include:

    1. Eat three small meals with 2-3 snacks. Do not skip meals or snacks.
    2. Eat less carbohydrate at breakfast than at other meals. Insulin resistance is the greatest at breakfast.
    3. Be consistent with the amount of carbohydrate during each meal/snack.
    4. With morning sickness, eat 1-2 servings of crackers, cereal or pretzels before getting out of bed. Eat small, frequent meals throughout the day. Avoid fatty, fried and greasy foods. If you take insulin and have morning sickness, make sure you know how to treat low blood sugar.
    5. Eat foods high in fiber: whole-grain breads, cereals, pasta, rice, fruits/vegetables.
    6. Eat foods with less sugar and fat.
    7. Drink at least 8 cups (or 64 ounces) of liquids per day.
    8. Ask doctor about taking a prenatal vitamin and mineral supplement to meet the nutritional needs of your pregnancy.

- Continue with an exercise during your pregnancy as directed by your physician. Remember that insulin and exercise can lower your blood sugar.

    1. Always carry some glucose tablets or hard candy
    2. Eat one serving of fruit or the equivalent of 15 grams of carbohydrate for most activities lasting 30 minutes.
    3. If you exercise right after a meal, eat this snack after exercise.
    4. If you exercise 2 hours or more after a meal, eat the snack before exercise.

- Monitor yourself for signs and symptoms of hypoglycemia (low blood glucose reaction) which can occur when skipping meals, not eating enough and taking insulin or exercising vigorously, or not eating meals at the same time each day Symptoms may include:

Confusion, Dizziness, Feeling shaky, Headaches, Sudden hunger, Sweating, and/or Weakensss

- Hypoglycemia is a serious problem that require immediate treatment. If you think you are having a low blood sugar reaction:

    1. Check your blood sugar if you can.
    2. If your blood sugar is less than 60 mg/dl, and you are able to swallow, eat a sugar-containing food like ½ cup of orange or apple juice; 1 cup of skim milk; 4-6 pieces of hard candy (not sugar-free); ½ cup regular soft drink; or 1 tbsp of honey, brown sugar, or corn syrup.
    3. Recheck blood sugar 15 minutes after eating one of the foods listed above. If it is still less than 60 mg/dl, eat another one of the food choices above. If it is more than 45 minutes until your next meal, eat a bread and protein source to prevent another reaction.
    4. Record all low blood sugar reactions in your log book, including the date, time of day the reaction occurred, and how you treated it.
    5. Follow-up with your doctor if symptoms persists.
    6. Educate your family members regarding these symptoms, in case they worsen. Have them call 911 for additional assistance.

What you can expect:

- Following the birth of the baby, the placental hormones are no longer produced and the mother's blood glucose levels usually return to normal quickly
- After delivery, have your blood sugar tested at least once per year
- If baby has grown too large, you may require a cesarean delivery.
- Having gestational diabetes increases the risk that this will occur with subsequent pregnancies
- Women who had gestational diabetes have a 60% increased risk of developing Type 2 Diabetes
- Have blood sugar tested during regular checkups following pregnancy and delivery.
- Continue with exercise, healthy meal planning, and maintaining an ideal body weight to reduce risk of developing type 2 Diabetes

Consult with your doctor if are pregnant, are experiencing symptoms related to gestational diabetes, are at high risk for developing gestational diabetes, or if you had gestational diabetes during a previous pregnancy.