

Gestational Diabetes Mellitus (GDM)

What is GDM?

In approximately 3-5% of pregnancies the mother may develop Gestational Diabetes Mellitus, or GDM. This is a condition in which blood sugar is abnormally elevated during pregnancy and generally develops because the pancreas cannot meet the extra requirements for insulin. Signs and symptoms of GDM are mild and mimic other signs of pregnancy: increased thirst, hunger, and urination. Women with GDM are at increased risk for infections, elevated blood pressure, and problems that accompany the delivery of a large baby, such as tissue trauma and/or stuck shoulders.

Infants born from diabetic mothers may need to have their blood sugar levels monitored for the first few days. These babies are more likely to develop low blood sugars as their bodies are now withdrawn from their mother's continuous high glucose supply and are also more susceptible to jaundice. Problems for the baby are generally related to the degree of severity of GDM in the mother.

Risk Factors for GDM

- Maternal age of 26 and older.
- Obesity, determined by a body mass index more than 27 (see instructions below to determine this).
- Ethnicity: women from Hispanic, African, Native American, South or East Asia, or Pacific Islands ancestry.
- Previous history of abnormal glucose tolerance.
- Past poor pregnancy outcome (stillbirth, spontaneous miscarriage, family birth defects).
- Family history of GDM, or Type 2 diabetes.
- Previous history of large newborn (more than 4000g or 9lbs).

Other Signs that may point to GDM include:

- Excess amniotic fluid.

- A large fetus.
- Accelerated weight gain.
- Repeated detection of glucose in the urine, or repeated urinary tract infections. Glucose in the urine during pregnancy is a poor indicator of diabetes. At this time the kidneys have a lower renal threshold for glucose. A high sugar diet is often responsible for high urine glucose.

Testing for GDM

GDM Screening Tests

The screening test is usually done between 24-28 weeks of gestation. This test does not determine if a woman has GDM. It does help the midwife determine if further testing for GDM is required. The Glucose Challenge Test (GCT) involves going to a lab, drinking a very sugary (50g glucose) drink, sitting still for an hour, and then having a blood test that assesses the levels of sugar in the blood.

An alternative is the 2-Hour Postprandial which involves going to the lab for a blood drawn after an overnight fast. Then eating a meal within 15-20 minutes, and returning to the lab 2 hours after beginning the meal. This method of screening is not as accurate as GCT.

The Diagnostic Test: Glucose Tolerance Test (GTT)

A diagnostic test is done if the blood sugar levels on the screening test are elevated. Again the mother goes to the lab (for either 2 or 3 hours), only this time she must fast throughout the night prior to her arrival. An initial blood draw is taken upon arrival. Then either 75 or 100-g of glucose solution is consumed followed hourly by blood tests. From this extensive testing a diagnosis of GDM can be determined. This test is also available for women who were diagnosed with GDM in a previous pregnancy.

What if You Have GDM?

The next step will involve information and instruction on diabetic care such as health teaching on diet, exercise, and monitoring of blood sugars. Very few women will require insulin. Generally, blood sugars returns to normal levels shortly after birth. If a client is found to have GDM the midwife is required by the College of Midwives of British Columbia to consult with other health care professionals regarding future care. The midwife may remain involved with the care but each case will be handled individually.

Occasionally GDM occurs regardless of risk factors or the tests results. This is one of the reasons the midwife will continue to monitor for sugar in the urine, and assess baby's growth at each prenatal appointment.

Pros and Cons of Testing

Advantages

Women who develop GDM are at a greater risk for developing Type 2 diabetes later in life. Being diagnosed with GDM may encourage these women to develop a healthy lifestyle early on. This may be an effective way to prevent or postpone the onset of Type 2 diabetes later in life.

Disadvantages

Some health authorities question the benefits of diagnosing GDM. There is considerable controversy that exists in the literature about the efficacy and ethics of screening and treatment. The concern is that the diagnosis of GDM comes with an increased likelihood of medical interventions (e.g. induction, caesarean sections), yet there is little information regarding the effectiveness of treatment versus no treatment. Proper diet, exercise, and monitoring of blood sugar may reduce the risk for large babies. However, studies have not proven that these treatments have significant benefits for the outcomes for mothers or their babies.

Information and Recommendations

- No eating, drinking (water is okay), or gum chewing, or physical activity is allowed at the lab.
- Unfortunately the GCT screening test has a high false-positive rate (i.e. you're incorrectly diagnosed as having GDM). The GTT or diagnostic test will clarify the results.
- The glucola drinks are very sweet and may cause feelings of nausea, and/or dizziness.
- Prior to testing, try to avoid high sugar foods such as fruit juices, pops, ice tea, cereals, white breads, pasta etc. Protein food sources (eggs, beans, meat, nuts) are preferable and will give a more accurate reading.
- Women with results greater than 10.3mmol/L on the screening test can be diagnosed with GDM without further testing.
- Bring some reading material to help pass the time.
- Optimal Total Weight Gain during pregnancy: first trimester 0.5 to 1 kg (1 to 2 pounds), 2nd and 3rd trimester 0.2 to 0.5 kg (0.5 to 1 pound)/week. The overweight woman should achieve the lower end of the range and the underweight, the higher end of this range. BMI = Body Mass Index. Formula: weight (in kilograms) divided by height (in meters squared). For example, an 85 kg, 170 cm woman has a BMI of 29 (85 divided by 2.89).

Informed Consent or Informed Refusal for Gestational Diabetes Mellitus (GDM) Testing

I, _____ have read the GDM information sheet, and I understand the information. I have had the opportunity to discuss and research this topic, and the opportunity to ask questions with my midwife. At this time I:

CONSENT _____

DO NOT CONSENT _____

to have the glucose screening test.

If I have the screening test and the results are positive I understand that I will be advised to follow through with the glucose tolerance test in order to better determine if I have GDM. In accordance with the College of Midwives of British Columbia, my midwife will be required to consult with other specialist(s) if I am positively diagnosed with GDM.

Client Signature: _____

Date: _____

Midwife Signature: _____

Date: _____