

Parents-Info Gestational diabetes Screening (updated January 2023)

Pregnancy is a time of great change, both physical and psychological. Gestational diabetes is a possible complication that leads to interventions and adverse effects during pregnancy and postpartum. The best way to prevent diabetes is to adopt healthy lifestyle habits from the beginning of the pregnancy. A balanced diet and regular physical activity have a positive impact on the pregnancy and the health of the mother and baby.

What is gestational diabetes?

Pregnancy causes a normal change in glucose (sugar) metabolism. However, when a pregnant woman has gestational diabetes (GD), the body is no longer able to regulate its own blood glucose levels. GD is defined as glucose intolerance that first occurs during pregnancy and has varying degrees of severity.

Many studies have been done on this topic, but the risks, conclusions and recommendations are not unanimous in the literature. However, new data now document a reduction in some maternal and infant complications after diagnosis, treatment and management of GD.

What are the possible negative consequences of GD

The main negative consequences of GD are an increased risk of :

- macrosomia (baby weighing more than 4 kg)
- shoulder dystocia in the newborn and associated injuries (brachial plexus paralysis, clavicle or humerus fracture)
- it is important to note that half of the cases of shoulder dystocia occur in babies who had no risk factors
- low birth weight (below the 10th percentile)
- hypoglycemia in the newborn (low blood sugar in the baby after birth)
- death of the baby before or after birth (stillbirth)
- developing high blood pressure and pre-eclampsia (a condition related to blood pressure) in the mother during late pregnancy
- Caesarean section
- for the mother and the baby to develop type 2 diabetes later on

Who are the women at risk of developing GD?

Women with one or more risk factors are more likely to develop GDM. The main risk factors are as follows:

- Obesity (BMI >30)
- Gestational diabetes in a previous pregnancy
- Diabetes in the immediate family (mother, sister,...)
- Previous delivery of a baby weighing more than 4 kg

- Age > 35 years
- Certain ethnic origins (Aboriginal, African, Asian, Hispanic, South Asian)
- Polycystic ovary syndrome
- Acanthosis nigricans (skin hyperpigmentation)
- Corticosteroid use

Recommendations

All women should be offered screening between 24 and 28 weeks of pregnancy. If risk factors are present, it is recommended to be tested early in pregnancy and to repeat the test between 24 and 28 weeks of pregnancy, if the first screening is negative.

***Women with risk factors can be referred to the diabetes clinic for prevention early in pregnancy.**

What are the tests for screening and diagnosing GD?

The recognized **screening test** is the induced hyperglycemia test, which is done between 24 and 28 weeks of pregnancy. This test consists of drinking a liquid containing 50g of glucose. One hour later, the blood sugar level is measured. Although some sampling centers do not do this, the sampling centers at our institution require that you fast for 2 hours before taking this test. If the result is too high, another test is prescribed, the 75g test, which must be done within a week. Sometimes the 50g test result can be high enough to diagnose GD. In that case, the 75g test is not necessary.

The test that permits to make the **diagnosis** of GD is the 75g test. Blood is taken on an empty stomach before drinking the sweetened liquid, and then blood is drawn again one hour and two hours later.

An alternative approach is possible depending on the situation and consists of doing the 75g test directly, without taking the screening test. This avoids having to do two tests. In this case, the diagnostic values are not the same. This approach is recognized as being equally valid for screening for GDM but is not the first choice of Canadian medical associations.

Like all tests, this one has limitations. It is imprecise and has poor reproducibility, which means that similar results are not obtained by repeating the test. In addition, the sugar solution used for the tests (50g or 75g) can cause side effects for some women such as nausea, vomiting, bloating, diarrhea, dizziness, headaches and fatigue.

For women who choose not to have these tests, midwives can offer a capillary (fingertip) blood glucose test on a random or, ideally, fasting basis. This is not the equivalent of a screening test, as there have been no studies of this approach. It is simply a one-time measurement of blood glucose. A fasting capillary blood glucose test can lead to a diagnosis of GD depending on the result. Women could also keep a homemade diary of their blood glucose levels.

What happens if I am diagnosed with gestational diabetes?

Women diagnosed with GD are referred to the diabetes clinic at St. Jerome Hospital's. They meet with a nutritionist who advises them on diet and a nurse who teaches them how to test their blood sugar levels at home. The majority of women (82 to 93%) are able to control their blood sugar levels with diet and exercise alone. They can remain under the care of their midwife. If it is not possible to control their blood sugar levels, a physician will prescribe insulin (7 to 20% of cases). At this point, the follow-up is transferred to the care of the physician and the consultation with the midwife ceases.

For women with diet-controlled GD, the SOGC :

- Suggests assessing fetal growth and amniotic fluid volume by ultrasound starting at 28 weeks and then every 3-4 weeks;
- States that it is reasonable to consider weekly monitoring of fetal well-being beginning at 36 weeks (monitoring and possibly ultrasound);
- Recommends offering induction of labor to women with diet-controlled GD no later than 40 weeks (between 38-40 weeks depending on glycemic control and risk factors).

It is important to note that the SOGC does not make a distinction between pre-existing diabetes, diet-controlled GD, and insulin-controlled GD. This makes the recommendations the same for everyone, regardless of how well their blood glucose levels are controlled.

At St. Jerome Regional Hospital, management of women with diet-controlled GD consists of a growth ultrasound at 34 weeks of pregnancy, weekly fetal wellness monitoring (fetal heart monitoring) starting at 36 weeks of pregnancy, and a suggested induction at approximately 40 weeks of pregnancy. It is also recommended that fetal wellness monitoring be done every 2-3 days when women decline induction of labor.

If risk factors are present (obesity, suboptimal glycemic control, estimated fetal weight higher than the 90th percentile or lower than the 10th percentile, history of stillbirth, hypertension), earlier and/or more frequent monitoring is recommended.

Why treat gestational diabetes?

New data now document a reduction of some risks listed previously after diagnosis and management of diabetes. According to the SOGC, treating women with GD and optimizing blood sugar control

- reduce the risk of preeclampsia
- Reduce the risk of macrosomia (baby weighing more than 4kg)
- reduce the risk of shoulder dystocia

The impact of induction of labor on cesarean section rates and newborn complications remains controversial.

What happens after the birth?

Breastfeeding and skin-to-skin contact should be encouraged soon after delivery to avoid low blood sugar levels for the baby (hypoglycemia). If she feels it is necessary, your midwife may take a blood sample from your baby to measure his blood sugar. In addition, breastfeeding is a protective factor against diabetes for the mother and the baby in the long term.

Normally, GD resolves itself without problems after delivery. However, women diagnosed with GD are at higher risk of developing diabetes later in life because of the common risk factors for GD and diabetes. They should have a 75g oral glucose tolerance test between 6 weeks and 6 months after delivery and adopt a healthy lifestyle.

Do not hesitate to ask your midwife for more information.

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