Glucose screening test and OGTT explained

Why glucose testing is done in pregnancy

During pregnancy, the placenta produces hormones that help support fetal growth but can also make the pregnant person’s cells more resistant to insulin. Insulin is the hormone that helps move glucose from the bloodstream into cells. As pregnancy progresses, especially in the second and third trimesters, insulin resistance normally increases. Most people compensate by producing more insulin. When the pancreas cannot keep up with this increased demand, blood glucose levels may rise.

Gestational diabetes mellitus, or GDM, is glucose intolerance first recognized during pregnancy. It may occur in people with no prior diagnosis of diabetes and sometimes with few or no noticeable symptoms. This is why routine testing is commonly offered, often between 24 and 28 weeks of pregnancy. Some people are tested earlier if they have risk factors such as a prior history of gestational diabetes, known prediabetes, polycystic ovary syndrome, higher body mass index, a strong family history of diabetes, or previous delivery of a large-for-gestational-age infant.

The purpose of testing is not to label or blame. It is to identify elevated glucose early enough to reduce complications. Untreated or insufficiently

controlled gestational diabetes can increase the chance of fetal overgrowth, shoulder dystocia, neonatal hypoglycemia, hypertensive disorders of pregnancy, cesarean birth, and later metabolic risk for both parent and child. With appropriate care, many people with gestational diabetes have healthy pregnancies and births.

Glucose screening test: what the one-hour test does

The glucose screening test, often called the one-hour glucose challenge test, is commonly used as the first step in a two-step approach to gestational diabetes screening. It is designed to identify people who may need more definitive testing. In many settings, you do not need to fast before this screening test, although instructions vary.

During the test, you drink a sweet liquid containing a fixed amount of glucose, commonly 50 grams in many pregnancy screening protocols. A blood sample is taken one hour later to measure your blood glucose concentration. The drink is very sweet, and some people feel mildly nauseated, warm, or lightheaded. These sensations usually pass, but you should tell the laboratory staff if you feel unwell.

If the one-hour value is below the clinic’s threshold, no further testing may be needed. If it is above the threshold, this does not automatically mean you have gestational diabetes. It means your result is abnormal for screening purposes and your clinician may recommend an OGTT, often a longer fasting test with multiple blood draws. Some practices use a one-step diagnostic OGTT instead of the initial screening test, so it is normal for friends or relatives to describe a different process.

OGTT: how the oral glucose tolerance test works

The oral glucose tolerance test measures your body’s glucose response over a defined period after you drink a measured glucose solution. Outside pregnancy, OGTTs are used to help diagnose diabetes and prediabetes. In pregnancy, they are used to assess for gestational diabetes, either after an abnormal screening test or as a one-step test depending on local practice.

For many OGTT protocols, you will be asked to fast beforehand, often overnight.

A fasting blood sample is taken first. You then drink a glucose solution, and blood samples are collected at scheduled intervals. The exact timing depends on the protocol: some tests measure glucose at fasting and two hours, while pregnancy protocols may include fasting, one-hour, two-hour, and sometimes three-hour samples.

A typical OGTT visit may include the following steps:

Confirming your identity, pregnancy status, and test instructions.
Taking a fasting blood sample if the protocol requires fasting.
Drinking the glucose solution within the required time.
Remaining at the clinic or laboratory without eating, drinking anything other than permitted water, smoking, or exercising.
Having timed blood draws until the test is complete.

The waiting period can feel long, especially if fasting makes you uncomfortable. Bringing something quiet to read or listen to, arranging childcare if needed, and asking whether you can sip water may make the experience easier.

Preparation: fasting, medications, and practical details

Preparation depends on the test your clinician ordered. For a one-hour glucose screening test, many clinics allow usual eating beforehand, though they may advise avoiding a very high-sugar meal immediately before the appointment. For an OGTT, fasting is often required. You may be told not to eat or drink anything except water for a specified number of hours before the test.

Follow your own laboratory’s instructions carefully because inaccurate preparation can affect results. If you accidentally eat, vomit after the glucose drink, take a medication at the wrong time, or become ill, tell the staff rather than trying to continue silently. The test may need to be rescheduled or interpreted with caution.

Ask your healthcare professional in advance about medications and supplements. Do not stop prescribed medication unless your clinician tells you to. Some medications, recent illness, physical stress, and reduced activity can influence glucose levels. If you have had bariatric surgery, severe nausea and

vomiting of pregnancy, or a condition that makes glucose drinks difficult to tolerate, discuss alternatives or modified testing plans with your care team.

On test day, it can help to wear comfortable clothing with sleeves that are easy to roll up. Because multiple blood samples may be needed, tell the phlebotomist if you have a history of fainting, difficult blood draws, or feeling unwell with fasting. After the test, you may want to eat a balanced snack or meal, especially if you have been fasting.

Understanding results without overinterpreting them

Glucose test interpretation depends on the protocol used, the glucose dose, the timing of blood draws, and the diagnostic criteria chosen by the practice or health system. This is one reason you may see different numbers online. A one-hour screening result may be considered elevated at one threshold in one clinic and at a slightly different threshold elsewhere.

For nonpregnant adults, a two-hour OGTT has commonly used categories for normal glucose tolerance, prediabetes, and diabetes. Pregnancy testing uses different criteria because the clinical question is different: the aim is to identify glucose levels associated with pregnancy-specific risks. In some pregnancy protocols, one abnormal OGTT value may be sufficient for diagnosis; in others, two or more abnormal values may be required. Your clinician should explain which criteria are being applied.

If your screening test is abnormal but the OGTT is normal, your care team may simply continue routine prenatal care or may recommend general lifestyle measures. If the OGTT is abnormal, your clinician may discuss gestational diabetes causes and diagnosis, nutrition counseling, home glucose monitoring, activity recommendations when safe, fetal growth surveillance, or medication if glucose targets are not met. These decisions should be individualized rather than based on a single number in isolation.

What an abnormal result may mean emotionally and medically

It is very common to feel worried, disappointed, or even guilty after an abnormal glucose result. Pregnancy already involves many tests, and another follow-up appointment can feel overwhelming. Try to remember that gestational

diabetes is strongly influenced by placental hormones and individual biology. Eating habits matter, but they are not the whole explanation.

Medically, an abnormal result is a prompt for a plan. Many people manage gestational diabetes with nutrition changes, appropriate physical activity, and glucose monitoring. Some need medication such as insulin or other therapies recommended by their clinician. Needing medication does not mean you failed; it means your body needs additional support to keep glucose in a safer range.

Good communication helps. Ask what your exact results were, which diagnostic criteria were used, what glucose targets apply to you if monitoring is recommended, and how quickly you should follow up. If you have a history of disordered eating, food insecurity, needle anxiety, or trauma related to medical care, tell your team. These factors can and should shape a compassionate care plan.

After the test and postpartum follow-up

After a glucose screening test or OGTT, you can usually return to normal activities unless your care team advises otherwise. If you fasted, eat and drink as soon as you are allowed. If you feel dizzy, sweaty, weak, or faint, notify staff before leaving the facility.

If gestational diabetes is diagnosed, follow-up usually involves education and monitoring during pregnancy. Your care team may include an obstetric clinician, diabetes educator, dietitian, endocrinologist, or maternal-fetal medicine specialist. The plan may change as pregnancy progresses because insulin resistance often increases later in gestation.

Postpartum follow-up is also important. Gestational diabetes usually improves after the placenta is delivered, but it increases the future risk of type 2 diabetes. Many guidelines recommend postpartum glucose testing, often with an OGTT or other glucose assessment, and ongoing periodic screening. If you are planning another pregnancy, preconception review can be useful, especially if you have a history of diabetes, insulin resistance, metabolic disorders, and female fertility concerns.