

Gestational diabetes

What?

Gestational diabetes refers to pregnancy sugar metabolism disorder detected for the first time during in which case the expectant mother's blood sugar level is abnormal. Gestational diabetes does not cause symptoms in itself. It usually appears first during pregnancy. Risk factors that appear during pregnancy are the presence of sugar in the morning urine, suspicion of a large fetus. Other risk factors include e.g. gestational diabetes diagnosed in a previous pregnancy, maternal overweight (BMI over 25) before pregnancy, maternal age over 40 years, polycystic ovary syndrome, previously born large child (over 4.5 kg)



Birth control

Since being overweight is a significant risk factor for gestational diabetes, overweight people should lose weight even before pregnancy and start a diet designed for gestational diabetes* after pregnancy, even if the sugar values are still normal. In addition, regular exercise** prevents the development of gestational diabetes.

Finding out

Gestational diabetes is diagnosed with a two-hour glucose stress test. It is done at the maternity clinic for pregnant women with risk factors for gestational diabetes, usually after the 28th week of pregnancy. The test is performed on almost all expectant mothers. The only exceptions are first-time mothers under the age of 25 with a normal weight (mass index below 25) who do not have type 2 diabetes in their immediate family, as well as normal weight women who have given birth again under the age of 40, who have not had gestational diabetes and whose newborn has not been large (so-called macrosomic). If the risk of getting sick is particularly high, such as in those who are severely overweight in the early stages of pregnancy or those who have previously had gestational diabetes or who have a strong family history of diabetes, the test is already done at 12–16 weeks of pregnancy.

If the mother has had gestational diabetes, the next glucose stress test is done at the counseling center or health center; for those treated with insulin after 6–12 weeks, for others after a year after birth – for example, in connection with the child's extensive health check-up 8 or 18 months after birth. If even one value is abnormal (fasting value over 6.1 mmol/l or two-hour value over 7.8 mmol/l), the mother is referred to an outpatient healthcare doctor for follow-up.

Sugar stress test

The glucose stress test is primarily done at the maternity clinic. You must not eat for 12 hours before the test. The study begins in the morning at 8–10. In the sugar stress test, the fasting blood sugar value is determined after 12 hours of fasting, after that a solution containing 75 g of sugar is drunk (300 ml of water in which 75 grams of glucose has been dissolved) and the blood sugar is measured after 1 and 2 hours. Gestational diabetes is when even one value in the two-hour sugar load is pathological. The limit values of glucose concentrations determined from venous plasma are ≥ 5.3 mmol/l after fasting, ≥ 10.0 mmol/l one hour and ≥ 8.6 mmol/l two hours after the start of the experiment.

Result

When certain limit values of the blood glucose concentration are exceeded, it is called gestational diabetes. The Käyä hoito working group recommends the following values as the cutoff values for gestational diabetes:

- fasting value $\geq 5,3$ mmol/l
- 1 hour value $\geq 10,0$ mmol/l
- 2 hours value $\geq 8,6$ mmol/l

Gestational diabetes

If even one of the above three limit values is abnormal, it is gestational diabetes.

Treatment and monitoring

In the treatment, the main focus is on diet*, but sometimes you also have to use medication, mainly insulin. The meal rhythm must be regular: Breakfast, lunch, dinner and evening snack and, if necessary, 1–2 snacks. The most important thing is a healthy and versatile diet, which ensures an appropriate intake of energy and nutrients, reduces the possible need for insulin treatment, prevents the child's and mother's excessive weight gain, and the mother's possible recurrence of gestational diabetes during subsequent pregnancies. Pregnancy is not an obstacle to exercise either.**

Self-monitoring

When the mother has been diagnosed with gestational diabetes, she is taught self-monitoring of blood glucose at the clinic. She will receive a meter and test strips intended for monitoring blood glucose at home. The goal is for the blood glucose values to be below 5.5 mmol/l in the morning before breakfast and below 7.8 mmol/l one hour after the meal. The measurements are taken before breakfast or another meal, an hour after the meal, a total of 4–6 measurements/day. If the above-mentioned target values of the treatment are not achieved, medication in tablet form or insulin treatment or a combination thereof is started. One in five gestational diabetics has to start insulin treatment. Insulin treatment is started in the maternity hospital and continues until delivery. The glucose stress test is repeated 6–12 weeks after delivery for those receiving insulin treatment, and one year after delivery for others.

* Nutrition

In the diet it is good to favor:

- High-fiber carbohydrates such as vegetables, fruits and berries at least ½ kg per day, as well as cereal products with preferably at least 10% fiber.
- Sufficient intake of soft fat is also important: 60–70% vegetable margarine for bread, oil-based salad dressing, vegetable oil is preferred in food preparation and fatty fish is eaten at least 2 times a week.
- The amount of hard fat is reduced, e.g. with fat-free dairy products, low-fat cheeses and meat cuts.
 - Proteins can be obtained from e.g. fish, chicken, lean meat, legumes and dairy products.
- A diet containing 1,800–2,000 kilocalories per day is recommended for people of normal weight, and a diet containing 1,600–1,800 kilocalories per day for overweight and obese people.

**Exercise

During a normal pregnancy, a general exercise recommendation applies. Exercise during pregnancy e.g. improves fitness and mood, prevents excessive weight gain, gestational diabetes, back problems, leg swelling and varicose veins, accelerates postpartum recovery and recovery from physical stress caused by pregnancy.

- If you haven't exercised before pregnancy, start slowly. You can gradually increase the training time and training times. Your goal is to move at least 2½ hours a week on at least 3 days so that you get some breath. Suitable sports are, for example, brisk walking, skiing and swimming. In addition, do muscle conditioning 2 times a week. Suitable sports are, for example, gymnastics and a fitness club.
- If you have been exercising regularly before pregnancy, you can continue your exercise as before. Avoid sports that involve impact, the risk of falling or quick changes of direction (e.g. hockey, ball games, horse riding, skiing) or training lying on your stomach, because it

Gestational diabetes

the uterus is subjected to strong compression, and after the 16th week of pregnancy, exercises that take place on the back, because in this position the uterus presses on the large blood vessels returning to the heart, which can cause nausea.

- Remember to drink enough during exercise - it contributes to sweating and thermoregulation!
- Stop exercising if you notice the following symptoms: headache, dizziness, shortness of breath, chest pain, severe fatigue or weakness, calf pain (vein congestion), strong contractions, bleeding or suspicion of amniotic fluid loss.
- Discuss exercise with your doctor and nurse as your pregnancy progresses, and lighten your exercise according to the instructions and your health.

Effects of gestational diabetes

As a result of gestational diabetes, the fetus the mother is expecting may grow large; in this case we are talking about macrosomia (a child born at full term with a birth weight of more than 4.5 kg), which can also cause problems during childbirth. The risk of lack of oxygen in a macrosomic child is also increased, or the blood sugar of a newborn child may be abnormally low (hypoglycemia). The risk is that the energy supply of the newborn's brain may be disturbed, so breastfeeding and more frequent feeding than usual (every 2 hours) may be necessary. If the newborn's blood glucose value is below 1.5 mmol/l, the child is started on so-called glucose infusion. This means that the newborn gets glucose into his system through a vein. The child also has an increased risk of blood glucose imbalance, overweight or metabolic syndrome compared to the rest of the population.

People with gestational diabetes are at risk of high blood pressure after the 20th week of pregnancy or preeclampsia (pre-eclampsia). Mothers with gestational diabetes also have an increased risk of later developing type 2 diabetes. In the future, the mother's weight, waist circumference, blood pressure and blood fat values (e.g. cholesterol) will be monitored. The target value of the waist for women is less than 80 cm; considerable disadvantage if the waist is more than 90 cm. Blood pressure below 140/90 mmHg, total cholesterol below 5 mmol/l and LDL cholesterol below 3.0 mmol/l. Gestational diabetes easily recurs. You can reduce the risk by losing weight to a normal weight, exercising and eating healthy.

No smoking!

You can find more information from the following sources:

Terveyskirjasto Duodecim Raskausdiabetes:

<http://www.terveyskirjasto.fi/terveyskirjasto/>

Käypä hoito suosituksset: <http://www.kaypahoito.fi/web/kh/suosituksset/>

Käypä hoito -suositus: Raskausdiabetes, potilasversio

Diabetes (D)-kauppa Raskausdiabetes - pidä huolta itsestäsi ja vauvastasi.

Suomen Diabetesliitto:

<http://www.diabetes.fi/diabetestietoa/raskausdiabetes>

<http://www.terve.fi/77060-raskausdiabetes>

