

# Gestational diabetes

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## **What is gestational diabetes?**

A rise in blood glucose level that occurs or is discovered during pregnancy is known as gestational diabetes. The risk of developing gestational diabetes increases as the pregnancy progresses and is greatest during the last three months of the pregnancy.

## **Why does gestational diabetes develop?**

Insulin is a hormone that is produced in the pancreas. One of the most important effects of the insulin is that it reduces the glucose concentration in the blood. Hormonal changes during pregnancy cause the body to develop insulin resistance, which means that the body gradually becomes less receptive to the blood glucose-reducing effect of the insulin. The body tries to compensate by producing more insulin, and if it is unable to increase insulin production sufficiently, the blood glucose level will rise.

## **How is the condition diagnosed?**

A diagnosis is made using glucose loading, known as the glucose tolerance test. The test involves drinking a glucose solution containing 75 grams of glucose, after which the blood glucose level is measured at set intervals. Glucose values that are above a certain limit are a sign of gestational diabetes. The approach used, i.e. who is offered glucose loading and what the limit values are for gestational diabetes, has differed throughout the country for a long time. In 2015, the National Board of Health and Welfare published new recommendations regarding limit values. The new limit values in Sweden have been under evaluation since autumn 2016.

## **How common is gestational diabetes and who is affected?**

With the routines that applied in Sweden in 2015, the figure was 2-3%, although it can be expected to increase in line with the introduction of the new limits. A person with diabetes in the family runs an increased risk, as well as those who are physically inactive, overweight, or who have gained a lot of weight during pregnancy. There is also an increased risk if a woman has suffered from gestational diabetes previously, or if she has given birth to large children. The prevalence of gestational diabetes varies throughout the world and is particularly high in certain non-European populations.

### **What are the risks resulting from high blood glucose levels during pregnancy?**

High blood glucose levels can affect the child throughout the entire pregnancy. Glucose passes easily through the placenta and when the mother's blood glucose level is high, the level in the foetus is also high. With normalised blood glucose levels, the prognosis for mother and child is very good.

High blood glucose levels early on in pregnancy also entail an increased risk of malformation of the foetus. With gestational diabetes, blood glucose levels are in most cases normal at the beginning of pregnancy and there is a very low risk of malformation. A high blood glucose level later in pregnancy could lead to an increase in insulin production in the foetus. As the insulin causes glucose to move into the cells, the child runs the risk of growing abnormally large. A very large child could suffer injury during delivery.

A rise in the amount of insulin in the foetus is the reason the child could be affected by low blood glucose levels directly after birth. Consequently, the child's blood glucose level is checked frequently during the first few days. It is important to begin breastfeeding as quickly as possible after delivery to avoid low blood glucose levels in the child. If necessary, the child can be supported with the aid of breast milk substitute.

For you as a mother, there is a slightly increased risk of developing high blood pressure during pregnancy. Giving birth to a large child also carries an increased risk of complications during delivery.

### **What is the treatment for gestational diabetes?**

Treatment is aimed at normalising the blood glucose level. This can be achieved in the first instance through an adapted diet, daily physical activity, and avoiding the use of tobacco. The diet should be low in fast-acting carbohydrates but high in vegetables and fibre. It is important that you do not eat portions that are too large and that you spread the meals evenly throughout the day. By doing so, you avoid blood glucose peaks and there is a reduced need to use your insulin reserves. A brisk walk each day or the equivalent will also help to reduce the need for insulin by increasing insulin sensitivity. The beneficial effect of exercise on blood glucose levels would become noticeable almost immediately, and would continue throughout the whole 24-hour period. If your values are slightly high, you may need supplementary treatment with insulin or Metformin tablets. In that case, you will receive more detailed information about how these drugs work.

### **What happens during delivery?**

Many women with gestational diabetes have a routine pregnancy and can give birth normally. If you have been receiving insulin or Metformin treatment towards the end of the pregnancy, you can in most cases stop the treatment immediately after

giving birth. It is important, however, that you measure your blood glucose level for a few days after giving birth to assure yourself that your blood glucose level is satisfactory.

### **What are the risks in the long term?**

In almost every case, blood glucose levels are stabilised after giving birth as the hormone balance goes back to normal and the body's need for insulin falls again. The fact that you have had gestational diabetes is a sign that you are predisposed to diabetes and that you have reduced reserve capacity to secrete insulin. In situations that require an increase in insulin production, your predisposition could return. The risk of developing diabetes later in life could be as high as 50%.

The ability of the body to produce insulin is not something you can influence, but by adopting a healthy lifestyle, insulin resistance can be avoided in a way that your current level of insulin production is sufficient. It is therefore important that following pregnancy you bring your body weight down to normal, stay physically active, and not use tobacco. By doing so, it is possible to avoid developing type 2 diabetes, which is by far the most common form of diabetes.

Through lifestyle measures you can also prevent the development of gestational diabetes in a future pregnancy. The risk of the expected child being big can be reduced, which is considered to lower the risk of the child suffering from obesity and diabetes later on.

In a small number of women, gestational diabetes could be a sign of the development of type 1 diabetes. This form of diabetes is not characterised by insulin resistance but by a lack of insulin, where the ability of the body to produce insulin is gradually destroyed by the body's immune system. Being overweight or a lack of exercise are therefore not the source of the problem in this group of women. Lifelong insulin treatment is necessary in the case of type 1 diabetes.

<http://www.socialstyrelsen.se/publikationer2015/2015-6-52/>