



Pregnancy Diabetes

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Pregnancy Diabetes occurs mostly between weeks 24 and 28 of the pregnancy. This form of diabetes disappears after giving birth. This brochure will give you more information on pregnancy diabetes, what it is and what it could mean for you and your pregnancy.

What is pregnancy diabetes?

What is diabetes?

With diabetes the blood sugar (glucose) level in the blood is elevated. The amount of glucose in the blood is managed by the hormone insulin. Insulin makes it possible for your cells to absorb glucose. Diabetes is diagnosed when the laboratory determines that the glucose levels (the amount of glucose present in the blood) is too high. In pregnancy it is important for the glucose levels stay within normal parameters as much as possible.

What is pregnancy diabetes?

During pregnancy extra hormones are produced which can cause the body to, temporarily, react less well to insulin. When pregnant, the body normally produces extra insulin to keep the glucose levels stable. However, with pregnancy diabetes this does not happen, causing too much glucose to stay in the blood.

Pregnancy diabetes develops mostly between weeks 24 and 28 of the pregnancy. In the Netherlands pregnancy diabetes occurs in 5% of all pregnancies.

Pregnancy diabetes can happen to anyone who is pregnant, however there is an increased risk to develop it if:

- You had pregnancy diabetes in a previous pregnancy
- Your glucose level was raised at the beginning of your pregnancy (and the fasting glucose level was within normal levels)
- You have a BMI of 30 (weight (kg)/height² (cm)) or above at the start of your pregnancy
- You have had a baby weighing 4500 gram or above
- You have a first degree relative who has diabetes mellitus
- You are of South-Asian, Hindustani, Afro-Caribbean, Moroccan, Egyptian, or Middle Eastern decent
- You have polycystic ovarian syndrome (PCOS)

Symptoms of pregnancy diabetes are:

- You are extremely thirsty (especially at night),
- You must urinate excessively,
- Your baby is much bigger than expected at that gestation, or
- You have a lot of amniotic fluid.

Often there are no symptoms, and you are not aware you are developing pregnancy diabetes.

Consequences of pregnancy diabetes

Normally, your body adjusts to the reduced function of insulin by producing more insulin. However, with pregnancy diabetes your body does not make any, or enough, extra insulin. As a result, the glucose levels in your blood will stay too high. Mostly this will not cause you any discomfort in the short term. However, it is important to try to keep your blood sugar within normal levels for the development of the unborn baby.

Consequences for the baby

The baby receives nutrients via the placenta (afterbirth) from the mother's blood. Too high blood glucose levels in the mother's blood leads directly to too high blood glucose levels in the baby. Consequently, there is a bigger chance of an increased birthweight of the baby (macrosomia). Strong fluctuations in blood glucose levels could slow down the development of the baby's lungs and high birthweight could potentially cause problems during the birth. Additionally, there are indications that suggest that children who are born with a high birth weight have an increased risk of developing diabetes themselves later in life.

A high glucose level during the last period of pregnancy could lead to a high insulin boost in the baby. When, after the birth, this high glucose boost of the placenta disappears, the baby is at a higher risk of a significant drop in its blood glucose level, which can be problematic. These risks can be adequately and quickly reduced when the blood glucose levels of the mother are improved.

Consequences for mother

Pregnancy diabetes is a warning for the future. The possible chance to develop lasting diabetes is forty to fifty percent higher in women who have had pregnancy diabetes compared to women who have not had pregnancy diabetes. Furthermore, there is a 60-70% chance of developing pregnancy diabetes in a following pregnancy. However, you can reduce the chance of developing diabetes by:

- Keeping a healthy weight (appropriate to your build and age),
- Taking regular exercise, and
- Eating a healthy diet.

It is therefore important to have a healthy lifestyle so that you can lessen the chance of developing diabetes.

If you have been diagnosed with pregnancy diabetes, your midwife will be taking care of you. If you are under the care of the hospital then the pregnancy diabetes will be followed up by a hospital-based midwife, assistant gynaecologist, or gynaecologist.

Treatment during pregnancy

The treatment is dependent on the results measured by the self-testing of your glucose levels. In most cases some small adjustments in your diet, under guidance of a dietician, will be sufficient. Sometimes insulin injections are needed to maintain the desired glucose levels.

Dietician

A dietician will look at your diet and eating habits and will give advice on how to get and keep your blood glucose levels within normal levels. The dietician will teach you about the composition of different foods. Also, they will explain about carbohydrates, from which the body derives its glucose. It is very important that you not only eat healthily, but also enough to sustain a healthy pregnancy.

You will have to arrange an appointment with a dietician, who has a working relationship with your midwife, yourself.

The following dietician practices work in the region of Breda-Oosterhout-Zevenbergen-Etten-Leur:

VodiMed dietician:

- Tel: 076 - 595 3075 of 06 - 37 48 18 74
- Email: dietist@vodimed.nl
- Website: www.vodimed.nl

BES-dieticians:

- Tel: 06-46727224
- Email: anneflore@besdietisten.nl
- Website: www.besdietisten.nl

ABC-dieticians:

- Tel: 06-43425690
- Email: info@abcdietist.nl
- Website: www.abcdietist.nl

The costs of the dietician will fall under 'own risk' of your health insurance.



Blood glucose Meter

To get a good overview of your blood glucose levels, it is required that you test your own glucose levels at various times, up to at least 4 times a day. You will be sent a glucose meter to your home address. This will be arranged by your midwifery provider. With the glucose meter you will receive a manual. You can also watch this short video:

<https://www.youtube.com/watch?v=n4d5j8Lft14>

or alternatively, you can scan the QR-code:



These materials will be covered by your health insurance but will come first under 'own risk costs'.

How often to measure blood glucose levels?

This is what you will need to do:

- Fasting*
- 1,5hrs after breakfast
- 1,5hrs after lunch
- 1,5hrs after dinner

*You will only need to measure your fasting glucose twice a week.

It is important that you wash your hands prior to measuring your blood glucose levels. You will start measuring your glucose levels 2-3 days after your dietary changes. This short video shows the use of the lancing device

<https://www.youtube.com/watch?v=Su7zJBMwRhA> or

scan this QR-code:

Measuring blood glucose levels could be considered burdensome, but it is something that you will need to do as part of your daily activities.



Your fasting blood glucose level needs to be lower than 5,3 and the glucose level measured after 1,5hrs after a meal needs to be below 7,0.

Should you measure too high on 2 separate occasions, please contact your midwifery provider.

It is important that in the period between the meal and measuring you do not eat or drink anything with carbohydrates and/or sugars. You can drink water or coffee/tea (without sugar).

Furthermore, it is important that, after you measure your glucose level, you have a snack, as agreed with your dietician, even if your blood glucose level is above 7,0. When you measure, only measure once. If you measure multiple times at the same time on different fingers, there will be differences in these readings. This is normal.

For the administration of your blood glucose levels we recommend you download the mySugr app (<https://www.accu-check.nl/mysugr-app>) available for Android and Apple. With the use of this app you can easily keep your measurements in one place and show them to your midwifery provider. The glucose meter and the app are linkable where the blood glucose measurements are automatically downloaded into the app. For further explanation and information please see: <https://www.youtube.com/watch?v=pV7Ba3K3rl8> or scan this QR-code:



Insulin injections

In approximately 75% of pregnant women dietary advice is sufficient to have normal blood glucose levels. If dietary changes do not result in normal blood glucose levels, you will be referred to an internist. You will then have to start insulin injections. The internist and specialist diabetes nurse will give you all this information. With use of insulin there is a small chance that your blood glucose becomes lower than intended. This is called a 'hypo'. This can make you feel unwell, dizzy, or even faint. Your specialist diabetes nurse and dietician can explain how to handle this.

Treatment during pregnancy

If you manage to keep your blood glucose levels stable within normal levels with dietary changes only, and you are under the care of a midwife, you can continue your pregnancy with her and give birth at your place of choice. You will receive some extra growth scans during your pregnancy to check the growth of the baby and the amount of amniotic fluid. These scans will be done at 31 and 35 weeks pregnant.

The use of insulin injections during pregnancy is a medical indication, therefore your pregnancy will be under the guidance of a gynaecologist, assistant gynaecologist or hospital based (clinical) midwife (where the last two will always be under supervision of the gynaecologist). You will receive scans every 4 weeks.



Treatment during the birth

You do not use insulin (diet only)

When you do not have to use any insulin, the birth will often be without any extra complications. There is no need to induce you any sooner and, if you wish, you can give birth at home. You do not need to check your blood sugars during the birth nor is it necessary that there are glucose checks for the baby afterwards. It is recommended that 5 to 6 weeks after you give birth you check your blood glucose levels over the course of two days (4 times as noted above).

You use insulin

Generally, the birth will be initiated before your estimated due date, around 38 weeks. When you use insulin, you typically administer before your meals. During the birth, you probably won't eat. Thus, is it likely that your blood glucose will fluctuate strongly. Yet, you will not be required to use insulin. Instead, your blood glucose will be checked every 2 hours and the hospital staff will keep a close eye on you.

A consult with the internist of specialist diabetes nurse can be had, also out of hours, should this be necessary. In some cases, it becomes required to administer glucose and insulin intravenously, but a glass of lemonade or insulin via injection is often sufficient. The health of the baby will be monitored by checking the baby's heart rate via continuous monitoring (CTG). If a baby has a very high birthweight, the birth could be more challenging. When there is not enough progression of the birth, it could be decided to perform a caesarean section.

Treatment after the birth

Treatment for the baby when you used insulin during the pregnancy

After the birth the supply of glucose which comes from the placenta (or afterbirth) disappears. There then the risk exists that your baby will have a too low glucose level. To check this, the glucose levels of your baby will be checked several times. It is possible that extra food might be necessary to avoid this problem. Should it be necessary, the neonatologist might have to give your baby glucose via a drip. Your baby will then be admitted to the children's ward.

Treatment of the mother

In most cases your blood glucose levels will stabilise within 24 hrs after giving birth. If you used insulin injections during pregnancy you can probably stop these after the birth with guidance of the internist or specialist diabetes nurse. We advise for you to keep measuring your blood glucose levels for the first week and once again after 3 weeks.

You will have an appointment with the internist 6-8 weeks after giving birth for a check-up. Just prior to the appointment, you will measure your blood glucose levels for the last time. If there any issues with your glucose levels, your general practitioner (GP) will contact you. We also ask that your GP monitor you further due to the increased risk of developing diabetes in the future. Additionally, we recommend you have your blood glucose checked every year.

Ook vragen wij uw huisarts om u in de gaten te houden vanwege het risico op het krijgen van diabetes in de toekomst. Daarnaast raden we u aan om eens per jaar uw glucosewaarde bij de huisarts te laten controleren.

A future pregnancy

With a future pregnancy, a glucose tolerance test will be done around 16 weeks for women who have had pregnancy diabetes before. If this test is fine, it will be repeated later in the pregnancy between 24 and 28 weeks.

Contact

Should you have any further questions after reading this information, please do not hesitate to ask your midwifery provider.

