NHS

Oxford University Hospitals
NHS Foundation Trust

Gestational Diabetes

Information leaflet

This leaflet is for people who develop diabetes during pregnancy. This condition is known as gestational diabetes.

What is diabetes?

Diabetes is a condition where your body cannot control the level of sugar in your blood normally. The level of sugar in your blood is called your blood glucose level. Insulin is a hormone (a chemical in the blood) made naturally in your body, which helps regulate your blood glucose level. If you have diabetes, your body does not make enough insulin or does not respond normally to the insulin that is produced. This means your blood glucose level can become very high.

What is gestational diabetes?

Gestational diabetes is diabetes which develops during pregnancy. It usually occurs towards the middle or end of pregnancy and is very common. It may be referred to in your notes as GDM, which stands for ‘gestational diabetes mellitus’. This only affects you during pregnancy and in most people, the blood glucose level will become normal again soon after the birth of the baby. If your glucose readings remain high after your baby is born, we have to think more about whether you have underlying diabetes (for example type 2 diabetes).

What does having gestational diabetes mean for my baby?

It is important to treat diabetes in pregnancy. When your blood glucose is high, this can cause complications for you and your baby. Gestational diabetes can cause your baby to grow larger than usual, which may increase the chance of a difficult birth. For this reason, the hospital doctors may recommend either an induction of labour (when your labour is started off artificially) earlier than you might go into labour by yourself, or a caesarean section (an operation where your baby is born through a cut made in your tummy). Both of these options are likely to reduce the chance of problems during birth due to the baby's size. Gestational diabetes also increases the chance of stillbirth, although this is rare. You will have more scans during your pregnancy to check your baby's growth, so that any unusual change can be picked up quickly.

Diabetes increases the chance of a condition known as shoulder dystocia. This is when after the baby's head is born, there is difficulty in delivering the baby's shoulders. If this happens, there is a chance of injury to the baby and/or mother. Your midwife and obstetrician (hospital doctor) will discuss this with you and help you to plan safely for the birth of your baby. Please see the Royal College of Obstetrics and Gynaecology Shoulder Dystocia leaflet for more information: **www.rcog.org.uk/guidance/browse-all-guidance/green-top-guidelines/shoulder-dystocia-green-top-guideline-no-42**

If you have high blood glucose levels before the birth of your baby, this can cause your baby's blood glucose level to fall after birth. Feeding your baby very soon after birth will usually return your baby's blood glucose levels to normal. If the baby's blood glucose level does not improve with feeding, your baby may need extra glucose in the form of an infusion (also called an intravenous drip) into their vein through a tiny cannula (a very small plastic tube). Your baby would need to go to the Neonatal (newborn) Care Unit for a short time to have this. Your baby is not likely to need any long-term treatment and this is not likely to impact on their future health.

Why do I need treatment?

Keeping your blood glucose level well controlled reduces the chance of these complications, as well as improving the chance of your baby growing at a normal rate.

How do I get a diagnosis?

If your doctor or midwife has identified that you have an increased chance of developing gestational diabetes (perhaps because of age, weight or ethnic background), you will be recommended to have testing for diabetes in pregnancy. One way to do this is to have an oral glucose tolerance test (also called a GTT) in pregnancy. This test involves a blood test first thing in the morning (before having any food, but drinking water is allowed), then drinking a glucose-containing drink. After two hours a further blood test is taken.

If either of these results are higher than normal, then a diagnosis of gestational diabetes is made.

An alternative way of testing blood glucose levels for those people that are unable to tolerate a GTT is to have an appointment with the diabetes midwives, who will set up plan with you to monitor your blood glucose levels 4 times a day for 1 week. This would also involve having a blood test called a HbA1c. An HbA1c blood test is a way to measure what your average blood glucose levels have been over the previous 3 months.

What happens if my glucose tolerance test (GTT) is abnormal?

You will be referred to the diabetes in pregnancy team at the Women's Centre at the John Radcliffe Hospital. You will be invited for an appointment to meet one of the midwives. They will explain the diagnosis and show you how to monitor your blood glucose level. They may also set you up on an app that we use if you have a compatible smartphone. Through the app, your blood glucose readings can be sent to our midwifery and medical team. They can review your results and advise on your medication, without you having to visit the department in person. We hope this will save you time. You will also be offered an opportunity to get some dietary advice from the Dietetics Service, who can offer information on ways to change your diet to help keep your blood glucose level within a normal range.

Blood glucose monitoring

Blood glucose monitoring is essential if you have gestational diabetes. If you are on treatment, we advise monitoring your blood glucose level six times a day (before and 1 hour after each meal). If you are not on treatment, you may be advised to monitor less often than this, but this will be explained by the diabetes specialist midwives.

The target levels for blood glucose are:

- Fasting (morning test performed before eating anything): 4.0 - 5.3 mmol/l
- 1 hour after starting a meal: 4.0 - 7.8 mmol/l

What treatment is available?

A healthy diet and regular exercise are really important in helping to control your blood glucose level. These are enough to keep blood glucose within the target range for about 1 in every 2 people with gestational diabetes. You will meet one of our dieticians to discuss this in more detail.

If your blood glucose readings are still above the target levels, then medication will be recommended, which is either metformin (a tablet) or insulin (an injection). If either of these treatments are needed, the doctor in the diabetes clinic will discuss this with you.

Metformin

What is metformin?

Metformin is a medication which makes your body more sensitive to your own insulin.

How is it taken?

Each tablet is a 500mg (milligram) dose and should be taken during or straight after meals with a glass of water. Metformin will be started at a low dose (e.g. one tablet) and your doctor will increase the dose based on your blood glucose readings. The dose can also be changed if you are experiencing any side effects. The usual maximum dose is 4 tablets a day.

Does it have any side effects?

Most people feel well on metformin. However, side effects may include nausea, abdominal (tummy) pain, bloating or diarrhoea. These are usually mild and pass quickly and are not usually a reason for needing to stop the medication. The chance of side effects is reduced by starting at a low dose and increasing slowly.

Is it safe for use in pregnancy?

Metformin is safe to use in pregnancy and has been used in pregnancy for many years.

What happens after I have given birth?

You can stop your metformin as soon as your baby is born. We ask all women with gestational diabetes to monitor their blood glucose levels for the first 24 hours after the birth, to check that the readings return to normal.

Insulin

What is insulin?

Insulin is a hormone (a chemical in your blood) naturally produced in the pancreas, a gland in your abdomen (tummy), which controls your blood glucose levels.

How do I take it?

Insulin is given by injection under the skin, with a very thin needle. If you need insulin, the diabetes team will teach you how to store insulin, measure the correct dose and inject the insulin.

Insulin is stored in a device which looks like a pen, with a very small needle at one end, which is used to administer the medication into your abdomen (tummy), buttocks or thighs.

Why have I been given different types of insulin?

There are many different types of insulin, but the two main types of insulin used in pregnancy are:

- Long-acting insulin (e.g. insulin glargine, also known as Lantus®), which is usually injected at night.
- Short-acting insulin (e.g. insulin aspart, also known as Novorapid®) which is injected at mealtimes.
- You may not require both types of insulin. This will depend on the pattern of your blood glucose readings.

Are there any side effects?

The injections are not usually painful, but it is recommended to regularly change injection site to prevent any damage to the skin beneath the injection sites.

Important:

Occasionally insulin use can cause your blood glucose to fall to an abnormally low level. This is called **hypoglycaemia**.

What are the effects of hypoglycaemia?

A low blood glucose level (hypoglycaemia) can cause shaking, dizziness, sweating, mood changes and headache. If you experience symptoms like these, check your blood glucose level if you can easily do this. If it is less than 4mmol/l, take some food or drink that contains glucose (for example 4 to 5 jelly babies or fruit juice). If checking your blood glucose level immediately is difficult, then assume that it is low and eat some food containing glucose (sugar).

When you are first supplied with insulin, you will also be provided with a single-use glucagon injection kit. Glucagon is a hormone which does the exact opposite of insulin, and puts your blood glucose level up. This is to be given to you by others if your blood glucose level is so low, that you become too sleepy to eat or drink something with glucose (sugar) in it.

How will this affect my pregnancy and birth?

It is normal for the dose of insulin needed to increase during your pregnancy, as the baby and placenta grow. If you are on insulin during pregnancy, it is likely you will need an insulin infusion (through a drip into your vein) during labour and birth.

Can I drive if I am taking insulin?

Yes, but we recommend that you test your blood glucose level before you drive and only drive if it's above 5mmol/l. You should inform your insurance company you are taking insulin for gestational diabetes. You only have to inform the DVLA if you are on insulin for 3 months or more after the birth of your baby.

What about my work if I am taking insulin?

There are some occupations where being on insulin causes potential health and safety issues, for example if you operate heavy machinery. Some occupations require you to notify your employer if you have started on insulin. You are advised to discuss the diagnosis and insulin treatment with your line manager and complete a risk assessment if needed.

After your baby is born

Gestational diabetes in most people is cured as soon as the placenta (afterbirth) is delivered, meaning you will no longer have diabetes after you have given birth. However, in a small number of people the diabetes does not go away, so it is important that we check your blood glucose level after you have given birth, while you are still in hospital. You should also have a fasting blood glucose test with your GP 6 weeks after the birth, or a HbA1c 12 weeks after the birth of your baby.

Your GP will also offer you an HbA1c blood test once a year, as people who develop gestational diabetes have an increased chance of developing type 2 diabetes, which is the most common form of diabetes in the UK. There are several things you can do to prevent this after the birth, the most important being maintaining your weight within the recommended healthy range and breast feeding your baby for 6 months after birth.

We will discuss all these issues with you and any other questions you might have, in the diabetes in pregnancy clinic.

How to contact us

Diabetes Specialist Midwifery Team

Telephone: 01865 851 039

Silver Star Office

Telephone: 01865 221 710

Our working hours are Monday to Friday, 8.00am to 5.30pm.

If you choose to leave a voicemail, please ensure you include your name and preferred contact number. You can contact the diabetes midwives via email on:

Email: Diabetes.midwives@oxnet.nhs.uk

If your call is urgent please phone the Maternity Assessment Unit on 01865 220 221.

Further information

If you would like an interpreter, please speak to the department where you are being seen.

Please also tell them if you would like this information in another format, such as:

- Easy Read
- large print
- braille
- audio
- electronic
- another language.

We have tried to make the information in this leaflet meet your needs. If it does not meet your individual needs or situation, please speak to your healthcare team. They are happy to help.

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