# Pregnancy with type 1 diabetes

Information for patients

## Key points

- Most women with diabetes who become pregnant have healthy babies.
- Diabetes can increase the chance of problems during pregnancy for both baby and mother.
- Your diabetes team are here to help work with you to optimise your diabetes care, reduce some of the risks and improve your chances of a healthy pregnancy and baby.

## What can I do to maintain a healthy pregnancy?

- Stop smoking
- Do not drink alcohol
- Healthy eating/weight: Eating a healthy diet and leading an active lifestyle during pregnancy can help your baby develop and grow, and keep you fit and well.
- Optimise blood sugar control: In pregnancy the targets for blood sugar control are tighter and we aim for blood sugars as near to normal as possible. This means that we aim for blood glucose levels of 4.0-5.9mmol/L before meals or >70% time in the range of 3.5-7.8mmol/L if you are using flash or continuous glucose monitoring. Similarly we aim for HbA1c (average blood sugar) as close to 48 mmol/mol as possible without significant hypoglycaemia).
- Medication review: Not all medications taken by people with diabetes are appropriate to continue in pregnancy, particularly cholesterol medication (statins) and some blood pressure medications (for example ACE-inhibitors). Please don't stop any medications without discussion with your doctor.
- Ensure your diabetes screening is up to date: It is important that you have had a recent review of your eyes and kidneys to see if your diabetes has affected them.
- Folic acid: High dose folic acid (5mg daily) is recommended in diabetes, to be taken for the first 3 months of pregnancy. This helps prevent neural tube defects such as spina bifida. You can only get high dose folic acid on prescription.

**Enjoy giving your baby a healthy start.**

## What do I need to know?

## What are the risks for my baby?

Most women with diabetes have healthy babies however, the chance of a problems with the baby and/or birth are increased compared to women without diabetes. Good control of your diabetes can help to reduce this chance.

**Miscarriage** - the chance of miscarriage in the first few weeks of pregnancy is slightly higher.

**Foetal anomaly (a problem with the development and formation of organs)** - 2 in every 100 pregnancies can be complicated by congenital anomaly. This chance is increased when you have diabetes. The most common anomalies are of the spinal cord and the heart. Excellent control of your blood sugar can help to reduce this chance close to that of women without diabetes. The higher your blood sugars are early in pregnancy, the higher the chance of an anomaly. You will be offered an ultrasound scan of your baby at 18 and 22 weeks of pregnancy to screen for any anomalies.

**Growth of the baby** - Diabetes can affect the growth of the baby by either affecting the blood flow in the placenta (leading to a smaller baby) or by the baby receiving too much sugar (leading to a bigger baby). Good sugar control can reduce the chance of a problem with the baby's growth.

**Still birth** - Babies of women or birthing people with diabetes have a slightly higher chance of dying inside the womb for reasons that are not completely understood but likely related to diabetic control and placental function. Due to this known risk, you will be offered a planned birth 1-3 weeks before your due date.

**Difficulties with birth** – There is an increased chance of difficulty birthing the baby's shoulders (shoulder dystocia) at vaginal birth in women with diabetes. This risk is higher if the baby has grown excessively. You will be offered ultrasound scans to monitor the growth of your baby during the later stage of your pregnancy to help you to make a plan for birth with the obstetrics team.

**Low blood sugar** - Babies born to people with diabetes can have low blood sugars (hypos) in the first hours and days of life. Your baby will be monitored for this by the team in the post-natal ward. The chance of having a baby with low blood sugar readings is higher if you have had higher blood sugar readings in the last few weeks, and even hours, before birth. If your baby has low blood sugar they may need care in the neonatal unit.

## What are the risks for my diabetes?

In the first trimester, there is an increase in the chance of you having low blood sugar (a 'hypo') and of you being less aware of the drop in your blood sugar. You will be offered continuous glucose monitoring during pregnancy if you are not already using this. We would recommend you, and if possible someone you live with, know how to use glucagon to treat a severe hypo.

During pregnancy there is an increased chance of developing diabetic ketoacidosis (DKA) at lower blood sugars. We therefore recommend that you check for ketones if your blood sugar rises above 10.

If you have pre-existing diabetic eye disease or diabetic kidney disease, these can worsen during pregnancy, and may not recover after your pregnancy has ended. We recommend that if you have existing eye or kidney disease you discuss this with your care team before considering pregnancy. All women with diabetes are offered eye and kidney screening in each trimester to ensure any changes can be monitored and treated if needed.

## What are the risks for me?

Women with diabetes have an increased chance of pregnancy related high blood pressure (hypertension) and a condition called pre-eclampsia. We will offer you regular blood pressure monitoring and checks of your urine for protein to screen for pre-eclampsia. Women with diabetes are more likely to have a caesarean birth or assisted vaginal birth than those without diabetes.

You will be offered care in the diabetes antenatal clinic to make sure all the staff you need to see are in the same place and to optimise your care.

## What should I expect from my diabetes and obstetric antenatal team in pregnancy?

**Appointments** - We will see you regularly throughout your pregnancy. We will offer you an appointment (in person or by telephone) with a diabetes and obstetric doctor at least every month. The team will also be available to contact by telephone or email between appointments. We will provide you with meters that can be uploaded remotely so we can discuss your sugar control accurately with you.

**Insulin** - Your insulin requirements will change significantly though the pregnancy. Close monitoring and adjustment of doses is important so that we can support you with these changes. Try not to get frustrated by this – you will get there, and we are here to work with you.

**Medications** - Other medications will need reviewed to make sure they are appropriate for pregnancy. We may suggest changing to alternative medications in some circumstances.

**Looking after your diabetes** - Changes related to diabetes can occur more quickly during pregnancy. We offer eye screening (photographs), a kidney blood and urine check and thyroid check every trimester. We will also check your HbA1c (average blood sugar) every trimester.

**Scans**

- You will be offered an ultrasound scan around 8 weeks to check the pregnancy is developing.
- You will be offered a routine booking scan around 12 weeks to date the pregnancy.
- You will be offered an anomaly scan at 18 weeks to look at the baby's organ development and an additional scan around 22 weeks to look at the baby's heart in more detail.
- You will be offered scans to check that your baby is growing well in your 3rd trimester.

**Birth**

- We recommend that women with diabetes give birth in a labour ward in hospital. We will discuss this in more detail later in your pregnancy and make a plan with you.
- You will likely need intravenous insulin during labour as you won't be eating in labour. Labour makes it very difficult to control your blood sugar with normal insulin and high blood sugar levels in labour can affect the baby in the first few hours of life. This will be managed by the hospital team but please discuss this beforehand if you have any questions or concerns. We recommend that you **continue** your long acting insulin in labour even if you are on intravenous insulin. If you normally use an insulin pump to manage your diabetes it is likely you can continue to use this in labour. We will discuss this with you during your pregnancy.
- When baby is born your insulin requirements will rapidly return to what they were before pregnancy. It is a good idea to make a note of your insulin requirements pre-conception to remind you what you will need after the pregnancy.
- Breastfeeding is safe for you and your baby. If you choose to breastfeed, there is a higher chance of hypoglycaemia. We will give you advice on how to safely manage your diabetes while breastfeeding.

**My Personal Care Plan and Start of Pregnancy Insulin Doses/Pump Settings**

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## My Checklist - I have:

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| Stopped smoking or do not smoke | |
| Stopped drinking alcohol or do not drink alcohol | |
| Considered healthy eating and asked for a referral to a dietician if I wished | |
| Reviewed my blood sugars, my targets are: | |
| Had a review of my medications | |
| Had my eyes and kidneys checked | |
| Started Folic Acid 5mg daily | |
| Had advice about hypoglycaemia and have discussed whether I need a glucagon kit (Patients with insulin treated diabetes only) | |
| Had advice regarding diabetic keto-acidosis (DKA) in pregnancy and I have a ketone meter and ketone strips (Patients with Type 1 Diabetes) | |
| I have discussed continuous glucose monitoring with my diabetes team (Patients using multiple daily dose insulin or insulin pump treatment only) | |

## Key Contact Numbers

- **Diabetes specialist nurse helpline** 0131 537 1746 WGH, 0131 242 1471 RIE, 01506 523 856 SJH
- **Diabetes emergency helpline for evenings and weekends** 0131 242 1000 (ask for the diabetes doctor on call)
- **Obstetric triage** 0131 242 2657 RIE, 01506 524 125 SJH

## Top tips for managing your diabetes in pregnancy

Managing your diabetes in pregnancy is hard work and can be very stressful. We are here to help you and share the burden. These are the key things you can do to optimise your diabetes control in pregnancy.