

Approvals:

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Maternity Guidelines Group: Jun 2014, V4 Mar 2017

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Patient Experience Group: V3 Sep 2014, V4 Aug 2017

Division of Women, Children & Sexual Health Services

How can I help reduce Healthcare Associated Infections?

Infection control is important to the well-being of our patients and for that reason we have infection control procedures in place. Keeping your hands clean is an effective way of preventing the spread of infections. We ask that you, and anyone visiting you, use the hand sanitiser available at the entrance to every ward before coming into and after leaving the ward. In some situations hands may need to be washed at the sink using soap and water rather than using the hand sanitiser. Staff will let you know if this is the case.

www.buckshealthcare.nhs.uk
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For further advice please contact :
Stoke Mandeville Antenatal Clinic: 01296 316227;
Stoke Mandeville Diabetes Centre: 01296 315530 or
Wycombe Antenatal Clinic: 01494 425575
<http://www.diabetes.org.uk/>

Diet & Gestational Diabetes (in pregnancy)

Patient Information Leaflet

For a translation or alternative format of this leaflet
please call PALS on 01296 316042

Gestational Diabetes

This leaflet aims to tell you what care to expect during the rest of your pregnancy and the postnatal period now that it has been identified that you have gestational diabetes. It will not answer every question you may have, so please write any concerns down and ask your midwife or doctor.

What is Gestational Diabetes?

Gestational diabetes is a type of diabetes that arises during pregnancy. It occurs when the body does not produce enough insulin to balance the effects of the hormones produced by the placenta, namely Human Placental Lactogen. Therefore blood glucose levels rise higher than normal. If it is diagnosed early in pregnancy, it is possible that diabetes has been present since before pregnancy.

How will it affect my baby?

Your baby will not be born with diabetes. However the high levels of glucose in your blood will cross the placenta and enter the baby's blood, which is not good for your baby and may cause him/her to grow larger than normal, which in turn can make delivery difficult.

Your pregnancy and blood glucose levels will be closely monitored. Following a detailed anomaly scan at 20 weeks, you will have growth scans every four weeks from 30 weeks and possibly others if clinically indicated.

If the high blood glucose levels are undiagnosed before pregnancy, there is a slightly increased risk of foetal abnormality. The degree of risk depends on how long and how high blood glucose levels have been.

What is the treatment?

You will be referred to the diabetes team where you will be seen regularly (eg every two weeks). You will be given a blood glucose meter and taught to perform your own blood glucose levels by finger pricking. You will be advised to

Women with gestational diabetes have up to a 60% risk of developing diabetes during their lifetime (compared to 10% risk in the general population). This is more likely for women from ethnic groups that have a naturally higher rate of diabetes (African, African-Caribbean and Asian). Up to 40% of women with gestational diabetes develop diabetes within 5-10 years after delivery. The risk may be increased in women who are overweight.

You should have a fasting blood glucose test and an HbA1c blood test repeated yearly with your GP. To reduce the risk of further pregnancies being affected or of developing diabetes in later life, it is suggested you:

- Maintain a healthy diet
- Achieve and maintain a healthy weight
- Remember to exercise regularly
- Breastfeed your baby for at least six months

Avoiding Excessive Weight Gain in Pregnancy

The recommended weight gain in pregnancy depends on your pre pregnancy body mass index (BMI) this is your weight in relation to your height.

Pre-pregnancy Body Mass Index (BMI)	Recommended weight gain	
	(kg)	(stones and lbs)
Underweight (< 18.5)	12.5 \Rightarrow 18.0	2 st \Rightarrow 2 st 12lbs
Normal weight (18.5 - 24.5)	11.5 \Rightarrow 16.0	1st 11 lbs \Rightarrow 2 st 7 lbs
Overweight (25 - 30)	5.0 \Rightarrow 9.0	1st 1 lb \Rightarrow 1 st 11 lbs
Obese (30 +)	5.0 \Rightarrow 9.0	11 lbs \Rightarrow 1 st 6 lbs

Skin to skin contact and early, frequent feeding will help avoid problems. It is recommended that you breastfeed your baby as your first milk (colostrum) helps to stabilise babies' blood glucose most effectively.

Whichever method of feeding you choose, your baby should feed within the first hour of birth and then at least every 3 hours (unless he/she wakes earlier) for the first few days. To monitor your baby's blood glucose a small blood sample will be taken from his/her heel about 3-4 hours after birth and repeated before each feed for the first 24 hours or until they are stable.

If you are breastfeeding, midwives and nursery nurses will show you how to position your baby ready to feed and how to latch your baby at your breast so they are able to feed effectively. You will be shown how to recognise the signs that your baby is feeding well.

If your baby is reluctant to feed (this may happen in the early hours after birth) the midwives will show you how to hand express and give your colostrum to your baby. In some cases your baby's blood glucose may remain low despite breastfeeding in which case you will be encouraged to give expressed colostrum, supplementary formula may sometimes also be recommended. Occasionally babies need to be transferred to the Neonatal Intensive Care Unit for 12-48 hours if they need alternative feeding methods or closer observation. You will be encouraged to be with your baby and carry out as much of your baby's care as you are able to do. Your baby's care will be discussed with you throughout.

In the future

There is a strong likelihood that gestational diabetes will recur in subsequent pregnancies. It is important to let your midwife or GP know as soon as you become pregnant again so that you can be referred to the diabetes specialist midwife for advice.

perform these tests 3 times per day and asked to record them in the monitor book provided. The aim will be to keep your blood glucose levels as follows:

- Fasting or before meals Below 5.3 mmol/l
- 1 hour after meals Below 7.8 mmol/l

Exercise

Exercise helps you maintain good blood glucose control. Try and increase your level of activity through more walking or swimming. Check with your doctor first if you have any other pregnancy complications.

Dietary Advice

The cornerstone of the treatment of gestational diabetes is healthy eating. Excessive weight gain during pregnancy will affect your health and increase the risk of having a large baby.

It is a myth that you are eating for two! Your calorie requirements increase very little and only during the last 3 months of your pregnancy.

With gestational diabetes it is important to eat regularly, aim for three meals a day with 1 small snack in between.

If you are hungry between meals, eat smaller main meals. This will allow you to have a snack in between. Try not to choose fatty and salty snacks, eg crisps, salted nuts and chivda.

Ensure you eat a balanced diet. Try to eat foods from all the food groups.

Diabetic products, biscuits and chocolate contain the same amount of fat as normal varieties and are not lower in calories, and therefore are not beneficial. Some products contain sorbitol which can cause diarrhoea if eaten in large amounts.

If dietary measures are insufficient to control your blood glucose at normal levels, the diabetes team may recommend you are treated with metformin tablets. Some women will also need insulin injections as well.

If you need to start insulin you will still need to follow the healthy eating guidelines but you may need to have a small snack between meals and a small snack at bedtime too. This may depend on your insulin regimen.

Healthy Eating Advice in Pregnancy

It is important to have a balanced diet including foods from each of the following 5 food groups:

1. Bread, cereals, pasta, rice, breakfast cereals, chapatti and potatoes

These starchy foods give you energy and should make up part of each meal. To help your blood glucose choose wholemeal, wholegrain and high fibre varieties. These are good sources of folate and are needed for the growth of your baby.

Drink at least 6-8 glasses of fluid– without sugar (1½ -2 litres) daily to help avoid constipation and to ensure you are well hydrated.

2. Fruit and 3. vegetables

Aim to eat 5 portions of fruit and vegetables a day.

Avoid fruit juice, including no added sugar fruit juice, as the natural sugar (fructose) in the fruit juice will raise your blood glucose levels quickly.

Fruit contains natural sugars so ensure that fruit is spread out throughout the day and that several pieces are not eaten at the same time.

Aim for 2 portions of fruit a day (at separate times). Aim for at least 3 portions of vegetables a day (eg 1 handful with lunch and 2 handfuls with dinner).

4. Meat, fish and alternatives

Lean cuts of meat, chicken, fish, eggs, nuts, seeds, peas, beans and pulses eg lentils provide protein, zinc and iron. Aim to have 2-3 portions from this group per day eg at each meal.

Too much Vitamin A can harm your baby, so **avoid** liver and

Vitamin and mineral supplementation

It is recommended to take folic acid and vitamin D supplements in pregnancy.

Labour Management

Pregnant women with diabetes should be offered induction of labour or, if medically indicated, elective caesarean section after 38 completed weeks (National Institute for Clinical Excellence 2008). If this is the case, the procedures will be explained to you and you will be given a date to come into hospital.

When in labour, your blood glucose levels will be monitored 2 hourly if they remain within normal limits. If your blood glucose levels do not remain within normal limits you may require an intravenous infusion of glucose and insulin during labour and your blood glucose levels will be checked hourly.

After the birth

After birth most cases of diabetes resolve.

- You can recommence normal diet and drinks when you are ready.
- If you require metformin tablets or insulin during pregnancy, this will normally be stopped immediately after the baby is born. You will be advised if you require continuing blood glucose monitoring by the diabetes team but usually this also stops after birth.
- You will be asked to do two more blood sugars after birth one must be fasting. Then you will have a blood test called an HbA1C three months after birth, then annually thereafter.

Feeding your baby

Your baby may have been used to higher levels of glucose before birth. The extra insulin produced in response to this may have a temporary lowering effect of their blood glucose after birth (hypoglycaemia).

- Uncooked or undercooked ready meals. Make sure meals are heated until they are piping hot all the way through.
- Take away meals which have been re-heated inadequately.
- Ready prepared salads - coleslaw, pre washed salad leaves.

Salmonella

This is a common form of food poisoning which is best avoided at any time! but especially if you are pregnant.

Avoid eating raw eggs and food containing raw or partially cooked eggs, such as homemade mayonnaise, mousse, soufflés and egg custard. Soft whipped ice cream should also be avoided. It is best to only eat eggs that have been cooked until the white and yolk are solid.

Choose cooked shell fish rather than raw, as shellfish may be contaminated with harmful bacteria which cause food poisoning.

Ensure that all the meat, including sausages and minced meat you eat is well cooked.

Caffeine

It is believed that high levels of caffeine in the diet can result in low birth weight babies, or even lead to miscarriage. The Food Standard Agency advise pregnant women to limit the amount of caffeine to no more than 300mg daily.

1 mug of instant coffee contains 100mg caffeine.

1 cup brewed coffee contains 100mg caffeine

1 can of energy drink contains up to 80mg caffeine

1 cup of instant coffee contains 75mg caffeine

1 cup of tea contains 50mg caffeine

1 50g chocolate bar contains up to 50mg caffeine

1 can cola contains up to 40mg caffeine

liver products and taking high dose multivitamins and fish oil supplements.

Pregnant women should avoid shark, marlin and swordfish. You should not eat more than two 140g (cooked weight) tuna steaks or four 140g cans of tuna per week. This is because of the high levels of mercury in these fish.

5. Milk and dairy foods

These are an important source of calcium.

Aim to have three portions of these foods daily.

A portion is equal to:

1/3 pint milk.

or 1 pot natural/ diet yoghurt.

or 25g cheese.

or 1 bowl milk pudding or custard.

Bread, fish with soft bones and dark green leafy vegetables, contain calcium, although they are not rich sources.

Foods to avoid and alternatives

The tables on the following pages show foods which are high in sugar with low sugar alternatives. Keep foods from this group to a minimum. An occasional celebration will not cause harm. It is the daily routine which is important.

If you find that you are gaining too much weight, try:

- to keep snacks such as crisps and nuts to a minimum
- add as little fat as possible to food when cooking – grill, poach, steam, boil and microwave instead of frying
- always choose the leanest cuts of meat, trimming off fat before cooking
- eating smaller portions.

<u>Foods to be avoided</u> High sugar/low fibre ❌	<u>Foods to take instead</u> Low sugar/high fibre ✅
Full sugar jam, marmalade, honey, syrup, treacle, lemon curd.	A thin layer of peanut butter, Marmite® or low fat cream cheese
Tinned fruit in syrup or light syrup	2 pieces of fruit a day, not eaten at the same time
Cakes and pastries	Wholewheat crispbread and oat cake
Sweet biscuits	1-2 plain biscuits, eg Digestive, Rich Tea, Marie, oatcakes
Chocolate and sweets	Fresh fruit for snacks or a plain biscuit Sugar free gum
Sugary puddings. Avoid products which are low fat unless they are also low sugar	Homemade milk pudding with sweetener, sugar free whips, sugar free jelly, diet/lite yoghurts (eg Müllerlight®, Weight Watchers®, Ski®, Shape® or supermarkets own brands), diet fromage frais
Full sugar fizzy drinks or pop, cola, lemonade	Use low calorie, sugar free diet or slimline varieties
Full sugar squash Avoid Hi-Juice, or low sugar varieties eg Ribena light and Lucozade® light.	Sugar free squash eg Ribena® toothkind, Robinsons special R, supermarket own brands (no added sugar)
Fruits juices with and without added sugar.	Water

<u>Foods to be avoided</u> High sugar/low fibre ❌	<u>Foods to take instead</u> Low sugar/high fibre ✅
Sugary or honey coated breakfast cereals e.g. honey nut cornflakes, sugar puffs.	Plain cereal eg shredded wheat, porridge, Weetabix®
Drinking chocolate, Horlicks®, Ovaltine®.	Cocoa made with milk and suitable sweetener. Low calorie instant drinks eg Cadbury's Highlights®, Options® or supermarket brands of 40 calories chocolate drinks
Chevda, Burfi, Jelabi, Gulab Jaman, Halwa, Pak, Kheer, Mesub, Gur, Jaggery	Rich tea or digestive biscuit, wholewheat crackers, nuts, low sugar yoghurt
Sugar - all types white, brown, demerara, muscovado, glucose, jaggery, molasses, Sorbitol®. Sweeteners containing sugar eg Sucron®, fructose, Fruisana®	No calorie artificial sweeteners in tablet, liquid or granulated form, eg Canderel®, Sweetex®, Hermesetas®, Splenda®, Nutrena®, Flix®, Saxins®

Food Safety in Pregnancy

During pregnancy you need to take extra care with some foods as they pose a potential risk to your unborn baby.

Listeria is a germ which can cause miscarriage, stillbirth or severe illness in a new born baby.

Avoid:

- Soft mould ripened cheese, such as camembert, Brie and blue veined cheese.
- All un-pasteurised dairy products and all pates.