



Tameside and Glossop  
Integrated Care  
NHS Foundation Trust

## **GESTATIONAL DIABETES GDM - INFORMATION FOR YOU AND ADVICE RE HEALTHY EATING**

Patient information Leaflet

June 2018

## **Introduction – what is gestational diabetes?**

Diabetes can develop during pregnancy; this is called gestational diabetes (GDM). It usually happens during the second or third trimester of pregnancy, and causes high blood glucose (sugars); it is thought to happen because of an increase in hormones that the body produces during pregnancy, this stops the insulin in the body from working properly. Insulin is a hormone used to keep your blood sugar stable, and it is produced by the pancreas. In gestational diabetes there is not enough extra insulin produced to overcome the effect of the extra hormones your body produces normally during pregnancy and therefore the blood glucose become high.

## **So, why are blood glucose levels important?**

### **How can they affect my baby?**

If your blood glucose levels are high this can mean that your baby will make more insulin to try and cope with these higher levels. This extra insulin can make baby grow larger, putting you both at risk for potential injury at delivery and there is a risk of still birth at any time with poorly controlled glucose levels.

When the baby is born they may have a low blood *glucose*, which can affect them for the first few hours of life. Your baby will be closely monitored post-delivery, and may need extra support until their blood glucose levels stabilise. This risk can be reduced by keeping your blood glucose levels stable and in target during labour and feeding your baby soon after birth

## **What are the risks to me during pregnancy/labour and post-delivery?**

You may also have an increased risk of pre – eclampsia (high blood pressure and protein in your urine), particularly if you are overweight. This will be carefully monitored for when you attend your antenatal appointments.

You may have an increased risk of induction of labour, caesarean section and tears to the skin surrounding your vagina and bottom during birth if your baby's growth increases. We can reduce these risks by controlling your blood glucose levels during pregnancy.

After pregnancy we are aware that you may have an increased risk of developing Type 2 diabetes in later life. The risk is between 40-60 % over the next 10-15 years. This risk can be reduced by maintaining a healthy weight, losing weight if you need to, eating a healthy diet and trying to incorporate physical activity into your daily routine. You will need to be monitored by your GP post-delivery to monitor for the development of Type 2 diabetes.

If you become pregnant in the future you do have a higher risk of developing GDM. This risk can be reduced by losing weight prior to getting pregnant. You will however be screened earlier in your subsequent pregnancies and monitored closely.

The specialist diabetes team will support you in managing your GDM, including advice for monitoring blood glucose and eating healthily. You will see the diabetes specialist nurse, diabetes specialist dietitian, obstetrician, endocrinologist, diabetes specialist midwife and consultant when you attend your antenatal clinic appointments

## **What blood glucose targets do I need to achieve?**

National guidance advises that we keep your blood glucose levels to strict target ranges to minimise any risk to you or your baby during pregnancy, labour and delivery

The target range is: -

Fasting blood glucose - less than 5.3 mmol/litre

And

1 hour after meals blood glucose - less than 7.8mmol/litre

You will be shown how to test your blood glucose safely and effectively and how to document these levels in your hand held antenatal notes. You will therefore be asked to test a minimum of 4 times but may be required to do additional testing if deemed necessary.

### **How can I achieve my target blood glucose levels?**

Over 80% of ladies can control their blood glucose levels by making small changes to their diet and by incorporating some regular gentle exercise. You will find information on this in the second section of this leaflet.

The remaining 20 % of ladies may require the addition of medication either with tablets or an injection. This would consist of a tablet called Metformin or an Injection of Insulin.

### **How does Metformin work?**

It works to lower the amount of glucose in your blood by lowering the amount of sugar produced by the liver, and also increasing the sensitivity of your muscle cells to use the insulin. You would be advised to take this medication with meals depending on your blood glucose levels and the dose can range from 500 mg to 1 g (to a maximum of 2g daily)

### **Why might I need insulin?**

Sometimes despite making changes to your diet and taking metformin some ladies need to also have an injection of insulin to control their blood glucose levels. This can either consist of an insulin you may take before going to bed to help you achieve your target fasting blood glucose levels and/or insulin to take with meals to help you achieve your post meal blood glucose targets.

Insulin therapy will be fully explained to you by your Diabetes Doctor /Nurse and you will be fully taught how to do this safely and supporting you with taking it throughout your pregnancy. Any treatment that is commenced in pregnancy will be stopped once your baby is born. Some ladies may require an insulin drip during labour/birth to help them maintain their glucose levels to target range but again this will be discontinued post-delivery once the doctors/midwives deem it appropriate.

Further Information –

Please ask a member of your health care team if you have any questions regarding your treatment. We are all here to help you achieve a healthy pregnancy and maintaining your target blood glucose levels

National guidelines can be viewed at

<https://www.nice.org.uk/guidance/ng3>

## **Dietary Management**

Healthy eating is an important management tool for gestational diabetes; a balanced diet provides you and your baby with all the right nutrients and will also help you to control your diabetes. We can use the Eatwell Guide to give us an idea of the breakdown of a healthy balanced diet.

### Carbohydrates

These are our main source of fuel from the diet, ALL carbohydrates break down to sugars in the body and will have an impact on your blood sugars, regardless of whether they are sugary or starchy.

Starchy carbohydrates are foods like cereals, potatoes, yam, pasta, rice, chapatti, bread and small portions of fresh fruit. Sugary carbohydrates, or foods with added sugar, include sweets, chocolate, cake, soft drinks, desserts, milk and yoghurt.

Even though all of these foods impact your blood glucose, your meals should contain moderate amounts of starchy carbohydrates as they are your body's main source of energy. Slower digested carbohydrates (low glycaemic index or low GI), are the best choice as they are broken down more slowly, so in moderate portions they do not cause the blood sugar to rise too quickly. This may help you keep your blood sugar levels more stable and help you to feel fuller for longer.

Top tips:

1. Spread your carbohydrate between your meals
2. Aim for 3 regular meals with moderate amounts of carbohydrates – about ¼ of your plate
3. Aim for any snacks to be lower in carbohydrates – try 10-15g carbohydrate snacks.

### **Examples of lower glycaemic index foods:**

- Porridge/rolled oats, reduced sugar muesli and bran cereal
- Barley
- Wholegrain/granary bread and fruit loaf
- Chapatti (made with besan or barley flour)
- Pasta, noodles and quinoa
- New potatoes and sweet potatoes
- Beans, lentils and pulses

These lower glycaemic index foods are slowly absorbed, low in fat, and should be included in the diet more often!

### **Examples of medium glycaemic index foods:**

- Peeled new potatoes
- Pitta bread, croissant, rye bread, crumpets, tortilla
- Basmati/wholegrain and risotto rice
- Couscous and gnocci
- Shredded wheat, Weetabix or bran flakes
- Oatmeal/digestive biscuits
- Rye crispbreads

### **Examples of high glycaemic index foods:**

- Baked/mashed potatoes and chips

- White bread, bagels, and corn tortilla
- Millet, tapioca, instant rice and jasmine rice
- Cornflakes, frosties and rice crispies
- Popcorn, cakes and pastries and rice cakes

### Tips

- By choosing more low glycaemic index foods this will help aid blood glucose control
- Glycaemic index is important – but it is also important to think about how much you are eating, a large carbohydrate portion with a low glycaemic index may rise your blood sugars just as high as a higher glycaemic index if you only had a very small amount of the high glycaemic index food.
- Remember some high glycaemic index foods are still healthy in small portions, such as some fruits, because they are full of vitamins, minerals and fibre as well as being low in fat and calories.
- Whereas some foods with lower glycaemic indexes have a high fat content, such as cake, and are best kept as a treat
- Carbohydrate free foods such as meat, cheese and butter have zero glycaemic index because they do not contain carbohydrates, but try to choose the leaner cuts of meat and low fat cheese.

Try to avoid sugary foods, as these will cause your blood sugars to go high quickly.

<b>Foods high in sugar</b>	<b>Lower sugar/Sugar free alternative</b>
Sugar, honey, syrup, agave nectar	Artificial sweeteners
Sugary and sweet drinks	Diet, light, zero varieties, or no added sugar squashed.
Chocolate biscuits/cookies	Plain biscuit (rich tea, digestive)
Cakes, pastries and puddings	Small portion of low fat custard, scone, small currant teacake, 1 small slice of malt loaf, 1 fruit
Thick and creamy yoghurts and fromage frais	Light, diet, fat free yoghurts that are also low in sugar (aim for about 5-8g of sugar per 100g)
Sweets, chocolates	Sugar free mints/gum, 1 portion of fruit
Diabetic products are not needed – they are often expensive and high in calories.	

### Fruit and vegetables

This group of foods is really important as it provides us with vitamins, minerals and fibre. Fibre can help prevent constipation. All types of fruit and vegetables count. Aim to have 5 portions per day, where a maximum number of fruits should be 2-3 portions and as many vegetables/salad as you like. This is because fruit contains natural sugars, which still impact on your blood sugars and so should be spaced out in the day.

### What's a portion?

- 1 average size apple, pear, orange
- 1 small banana
- 2 small fruits e.g. plums, satsuma, kiwi
- 1 large slice of melon or pineapple
- 8-10 grapes or any type of berries
- 2-3 heaped tablespoons of vegetables
- A small cereal bowl of salad

Milk and dairy foods

This group are a good source of calcium, which is essential for healthy bones and teeth. However some dairy foods contain natural sugars, which will affect blood sugars, therefore it is important to only have small portions of foods like milk and yoghurt throughout the day.

Aim to have about 3 servings each day, where a serving is a 1/3 of a pint of milk, 1 small pot of yoghurt or 1oz of hard cheese.

Vitamin D

This vitamin is essential to help us absorb the calcium in our diet. It is only found in a small number of foods such as oily fish and eggs. It may also be added to foods like margarine and breakfast cereals. Your body can make its own vitamin D from exposure to sunlight; however this usually is not enough, as we need to stay safe if we spend long periods in sunlight by using sun cream.

It is currently recommended that all adults in the UK take a vitamin D supplement, as we are unable to make sufficient vitamin D from sunlight exposure. For pregnant women and breastfeeding mothers, it is recommended that you take a 10 microgram supplement of vitamin D every day. Ask your GP/consultant if you are unsure if you take these supplements or would like to discuss suitable supplements.

Fats and fatty foods

We know that eating too many fatty foods can cause weight gain and make it more difficult to control blood sugar levels. To limit weight gain during pregnancy try these lower fat alternatives:

Foods high in fat	Alternatives or ways to reduce fat
Butter, margarine, oil	Use sparingly – spread thinly, use spray oils/minimal amounts when cooking with oils Use moist sandwich fillings which don't require butter/margarine Mash potatoes with only milk
Dairy products	Use semi-skimmed, 1% or skimmed milk Choose lower fat yoghurts Reduce the amount of cheese
Meat, poultry, fish	Choose lean cuts of meat – remove visible fat
Fatty foods, e.g. pastry, chips	Reduce intake of pastry Cook foods such as potatoes in as little oil as possible, or choose jacket potatoes, new potatoes or sweet potatoes instead When cooking, bake, steam, poach or microwave instead of frying

Ideas for healthy, low carb snacks:

- Veg sticks and low fat hummus or peanut butter
- Tomato and mozzarella salad
- Gherkins or pickled onions
- Seafood sticks
- Rhubarb or fruit stewed in diet lemonade
- Hard boiled eggs or scrambled eggs without milk
- Lean cooked cold meat (chicken, lean ham, turkey)

- Handful unsalted nuts e.g. cashews, walnuts, pecans, almonds
- Vegetable soup without lentils, beans or potatoes
- Sugar free jelly
- Small glass of tomato juice
- 1 mini pitta and hummus
- 30g of plain popcorn
- Medium nectarine or orange or a handful of berries
- Small pot of low fat yoghurt
- 2 x crisp breads or rice cakes and low fat cheese spread
- 1-2 rich tea biscuit or 1 finger small chocolate biscuit
- Half an avocado
- Cottage cheese
- Handful of cherry tomatoes or strips of peppers

Tips for eating out:

1. Choose soup or salad as a starter
2. Just have one type of carbohydrate at a meal e.g. potatoes or bread
3. If you want a pudding, choose a carbohydrate free main meal or reduce the amount of carbohydrate in the main meal and share a pudding

## Iron

Iron is also an essential mineral and pregnant women can become deficient in iron, so ensure you eat plenty of iron rich foods, such as red meat, pulse, bread, dark green leafy vegetables and fortified breakfast cereals. Although liver/liver products are a good source of iron, you should avoid eating them whilst you are pregnant, due to the high vitamin A content.

Try to include some fruit or vegetables when you eat foods rich in iron, as the vitamin C they contain, will help your body absorb the iron better. Try to avoid tea/coffee with your meals as this can reduce iron absorption.

## Fluid and caffeine

It is important to stay hydrated during pregnancy to prevent constipation and dry skin etc. aim to drink 1.5-2.5 litres of sugar free fluids per day, this includes water, semi-skimmed milk (in moderation), tea, coffee, sugar free drinks/squashes and fruit/herbal teas.

It is recommended that during pregnancy we limit our caffeine intake to no more than 200mg of caffeine per day from tea, coffee, cola or energy drinks. High intakes of caffeine can result in babies being low in weight or even increase the risk for miscarriage.

Be aware that some cold remedy medications can also contain caffeine; speak to your GP/pharmacist before taking these.

<b>Food/drink</b>	<b>Caffeine content</b>
1 mug of instant coffee	100mg
1 mug of filter coffee	140mg
1 mug of tea	75mg
1 can of cola	40mg
50g bar of plain chocolate	50mg

### Alcohol

It is best to avoid alcohol all together when you are pregnant.

### Food safety

Always wash your hands before and after handling food, and also wash all fruits and vegetables before eating them. Make sure that all foods are cooked thoroughly or re-heated till piping hot. When eating eggs, ensure they are Lion marked, if they are not, ensure they are thoroughly cooked all the way through, it is no longer necessary to avoid partly cooked eggs as the risk for salmonella is much lower than it was a few years back.

It is also recommended that you avoid soft ripened cheese (Brie, camembert and chevre), blue veined cheese (blue stilton, Danish blue) and all unpasteurised dairy products, all pates (including vegetable varieties), ready prepared salads, and take away meals than have been re-heated inadequately as these are all a high risk for listeria food poisoning which can harm your unborn baby.

It is generally advised to avoid liver/liver products including cod liver oil, due to the vitamin A content.

### Fish

It is recommended that pregnant women limit their intake of oily fish to no more than 2 portions per week, (salmon, sardines, pilchards, trout, kippers, and mackerel) and to avoid fish which contain high levels of mercury e.g. shark, swordfish and marlin as it can affect the baby's nervous system. It is also advisable to limit the amount of tuna eaten for the same reason, to four medium cans of tuna (drained weight 140g) or 2 tuna steaks per week.

### Healthy weight and physical activity

When you are pregnant, we do not need to eat for two, our calorie requirements only increase by 200kcal per day in the last 3 months of pregnancy, that's equivalent to 1-2 pieces of toast, or a small bowl of cereal.

The average weight gain during pregnancy is 12kg (just under 2 stones): 2kg (5lbs) in the first 20 weeks and 9kg (20lbs) in the last 20 weeks.

It is important to avoid excessive weight gain, especially if you were overweight prior to pregnancy. However it is not recommended that you diet during pregnancy.



To help keep your weight in check, try to do some daily physical activity. If you can try to do 30 minutes of physical activity as this can help you manage your blood sugars better. Suitable exercises include walking, swimming, aqua-natal etc, but you should discuss with your healthcare team about what is the best option for you.

#### After gestational diabetes

Once the baby has been delivered, there is an increased risk for developing gestational diabetes again in any future pregnancies. It is one of the strongest risk factors for the development of type 2 diabetes, and up to 50% of women diagnosed with gestational diabetes go on to develop type 2 diabetes. So it is a good idea to continue with a healthy diet and lifestyle once the baby has arrived, it will also reduce the risk for the baby developing type 2 diabetes later in life.

#### Contact us

If you require further information please speak to one of our team in the antenatal clinic

#### If you have a visual impairment this leaflet can be made

Available in bigger print or on audiotape. If you require either of these options please contact the Patient Information Centre.

Telephone 0161 922 5332

The Trust Public Website is also speech enabled using BrowseAloud

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