Humber and North Yorkshire
Health and Care Partnership

Local Maternity and Neonatal System

Gestational Diabetes

What you need to know

The LMNS is committed to serving and respecting all our maternity service users, most of whom are women. The language we use reflects that but will also be varied where appropriate to recognise and affirm diverse gender identities. We will always use women but we will use gender neutral language when appropriate.

Contents

What is Gestational Diabetes (GDM)?

Gestational Diabetes is diabetes that develops during pregnancy it can affect 10-20% of pregnancies.

What causes GDM?

Your body undergoes lots of changes in pregnancy. The hormones your body makes can make it harder for the insulin you produce to work properly.
Insulin is needed to help the glucose (sugar) to move from you blood into your cells.

This means you can be at increased risk of becoming insulin resistant, which is when your body's cells don't respond properly to the insulin that your body makes, and some women can't produce enough extra insulin to overcome this.

This can make it difficult for your body to use the glucose which is needed for energy. If the glucose stays in the bloodstream the glucose levels will increase, and this can lead to gestational diabetes.

Who is at greater risk of developing GDM?

- Anyone with a BMI of 30 or over
- Having GDM in a previous pregnancy
- Having a baby of 4.5Kg (10lbs) or more in a previous pregnancy
- Having a first degree relative with diabetes
- Being from an ethnic group with a higher prevalence of diabetes.
- Increasing age.

Some units may offer a glucose tolerance test to women with:

- History of Polycystic ovary syndrome (PCOS)
- Taking some anti-psychotic medications
- Multiple pregnancy
- History of previous stillbirth.

Can GDM be prevented?

GDM can't always be prevented, you may be able to reduce the risk prior to planning a pregnancy. This can include support to manage your weight, eating healthy and keeping active. If you have had GDM in a previous pregnancy, you can access the National Diabetes Prevention Programme.

What are the risks of having GDM?

The most common risk is the possibility that your baby will grow too big – this is called macrosomia. This is because your baby is receiving too much glucose via your placenta. This can cause problems with delivery as the baby can grow too large to deliver safely through the vagina. You may be offered additional scans during pregnancy to check on your baby's growth. Your obstetrician will discuss delivery with you so you can have an informed choice.

GDM can also increase the risk of:

- Stillbirth
- Raised blood pressure during pregnancy (pre-eclampsia)
- Preterm (early) labour (prior to 37 weeks)
- Polyhydramnious – too much amniotic fluid (the fluid that surrounds the baby) in the womb, which can cause premature labour or problems at delivery.

How is GDM diagnosed?

The main test currently used to diagnose GDM is an oral glucose tolerance test (OGTT). This test may be done at the hospital or at one of the community midwife clinics.

If you have had gestational diabetes in a previous pregnancy you may opt for starting to test your blood glucose levels early in pregnancy or have an early OGTT (if this test is negative, you will be advised to have another performed at around 24-28 weeks of pregnancy).

1. You will be advised to fast (not eat or drink anything from the night before the test, if you do not fast the test can't be done).
2. You will have a blood test to measure the glucose level in your blood after fasting.
3. You will then be asked to drink a glucose drink.

4. You will be advised to stay at the clinic for another 2 hours before having a further blood test is taken.
5. You will not be able to eat or drink anything other than sips of water before and during the test.

You will be diagnosed as having GDM if your fasting blood glucose reading is 5.6 mmol/l or above and or if the 2-hour readings is 7.8 mmol/l or above.

What are the symptoms of GDM?

Not everyone diagnosed with GDM will experience symptoms.
Symptoms may include:

- Passing urine more especially at night
- Being thirsty
- Feeling more tired than usual
- Genital itching or thrush
- Blurred eyesight.

Some GDM symptoms can seem like symptoms that may be experienced generally during a pregnancy.

When does GDM develop?

It can develop at any stage in pregnancy, but it is more common in the second and third trimester.

After having GDM you should also be offered a blood test 6-13 weeks after birth, and then once every year. This is because after having GDM you are at increased risk of developing Type 2 diabetes.

What happens after I have been diagnosed with GDM?

You will be seen by the specialist team which will include a Diabetes Specialist Midwife (DSM) a Diabetes Specialist Nurse (DSN) and a Diabetes Specialist Dietitian (DSD) alongside the Consultant Obstetrician and Diabetologist.

You will be shown how to test your blood using a blood glucose meter. The team will explain the target levels for your blood glucose and what to do if the readings are over these levels. You should aim for a fasting reading of 5.3 or lower pre meals 5.6 or lower. 1- hour post meal 7.8 or lower-and 2-hour post meal of 6.4 or lower.

You may be seen in a group or 1:1. The team will discuss diet and physical activity with you and how this may help you keep your readings in the target range.
They will keep in regular contact with you. They will also give you information about how to contact them if you need any help or advice about your glucose readings in between appointments.

What can I eat?

What happens if my blood glucose is above the target range?
You may need to adjust the amount of carbohydrate in your meals.
What foods contain carbohydrates?

- Rice – all types
- Bread – all kinds including chapattis, Naan bread.
- Crisps, Nachos, tortilla chips, pretzels, rice cakes, crackers, and crisp breads
- Fruit – fresh, frozen, and tinned
- Breakfast cereals including muesli and porridge.
- Yorkshire pudding pancakes and batter mixture
- Coated foods e.g., Fish fingers battered fish.
- Pasta-fresh, dried, and tinned
- Couscous, barley, and other grains
- Dairy foods e.g., milk, yoghurt, ice-cream, custard
- Sugar, syrup, honey, treacle, jam, marmalade
- Flour- all types
- Pies, sausage rolls
- Cakes, pastries, biscuits chocolate, sweets
- Processed meat products e.g., sausages, burgers.

How much carbohydrate should I have?

You may not need to change the amount you are currently eating; you only need to adjust if your blood glucose readings are over the target suggested by your diabetes team. We would not want you to have less than the amounts suggested below.

Breakfast 20-30g carbohydrate – examples include one of the following:

- 2 small slices of toast with spread
- 4 tablespoons cereal such as cornflakes / bran flakes / rice cereal with milk
- 1 wheat biscuits with milk
- 2 x poached or scrambled eggs on 1 x toast
- small pot yoghurt with 1 piece of fruit
- 30g porridge oats made with milk.

Lunch 40-50g carbohydrate – examples include one of the following:

- 2 medium slices of bread made into a sandwich with protein filling such as meat / cheese / egg / fish with piece of fruit
- small tin of baked beans on 1 slice toast and piece of fruit
- small jacket potato (weighing 200g when cooked) with salad and cottage cheese/ cheese
- 1 pitta bread with salad and filling such as meat, fish, or cheese with a small yogurt of piece of fruit
- 4tblsp of cooked pasta in a pasta salad with vegetables and cheese/meat.

Evening meal 40-50g carbohydrate – examples include one of the following:

- 4 tablespoons pasta with meat / fish and salad / vegetables
- 4 tablespoons basmati rice with meat / fish and salad / vegetables
- 4 egg size potatoes with meat / fish and salad / vegetable
- small jacket potato (weighing 200g when cooked) with meat / fish and salad / vegetables
- 1 tortilla with meat and vegetables (about 35g) and salad
- 2 chapatis (6in or 15cm) with curry.

Follow with a small pot of diet yoghurt a piece of fruit or a small scoop ice cream (approx. 40g).

Be careful with sauces added to main meals as these may increase the carbohydrate content of the meals, especially if they are milk based or have added sugar, examples include white sauce / béchamel sauce, sweet and sour sauce.

If you are hungry between meals, you could try one of the following:
10-15g carbohydrate snacks mid-morning, mid-afternoon and at supper can be eaten if hungry

- piece of fruit – fun-size apple / pear / banana
- 2 crispbreads and low-fat cheese
- small pot diet / light yoghurt
- 2 x rich tea, malted milk, or plain biscuits
- Small individual bag of popcorn (14g).

Carbohydrate free snacks can be eaten at any time:

- raw vegetables / salad with humous / salsa dip / cottage cheese
- handful nuts / mixed seeds
- olives / sundried tomatoes.

You can also consider trying to increase the protein (e.g., lean meat, fish, lentils, pulses), salad and vegetables at meals as these do not affect blood glucose levels.
Avoid sugar rich drinks like fresh fruit juice and fizzy drinks as even when the diet variety are used the caffeine content needs to be considered.
Specialist diabetes foods such as sugar-free chocolate are not recommended as they can have a laxative effect.

Type of carbohydrate – Low Glycaemic Index (GI)

The glycaemic index is a ranking of carbohydrate containing foods based on their effect on blood glucose levels. Choosing lower glycaemic index foods (GI) can help control blood glucose levels as these foods are absorbed more slowly. These foods include oat-based cereal like porridge and muesli, multigrain/seeded/granary, or rye bread. Pasta, noodles, basmati rice, quinoa, beans, lentils, milk, yogurt and most fruit and vegetables. However, if you are basing your meals on low GI foods you still need to be aware that the quantity chosen will have the biggest effect on your blood glucose readings.

Managing weight

Weight loss is not recommended in pregnancy, however, making small changes to the diet and increasing activity levels whilst pregnant can help you manage blood glucose levels and can also help avoid too much weight gain.

Activity

Exercise is safe during pregnancy. Regular exercise is important in helping keep blood glucose levels within the targets, for example walking for 30 minutes after a meal. Exercise will also help in preventing excessive weight gain.

Moderate intensity activity will not harm the baby. At least 30 minutes per day of moderate intensity activity is recommended. Try to avoid sitting for long periods of time, and try to build exercise into daily life, such as taking the stairs instead of the lift. Recreational exercise such as swimming or brisk walking and strength conditioning exercise is safe and beneficial. The aim is to stay fit, rather than to reach peak fitness.

If you have not exercised routinely aim to begin with no more than 15 minutes of continuous exercise, three times per week, increasing gradually to 30 minutes per day. If you have exercised regularly before pregnancy, you should be able to continue with no adverse effects.

What happens if my blood glucose levels are still over target even after making dietary changes? You may need some medication if his happens.

Medication

Metformin

This is a tablet that will help insulin work more effectively, therefore helping reduce the insulin resistance associated with pregnancy hormones. It is considered safe in pregnancy. The National Diabetes in Pregnancy Audit has also not shown any detrimental effects using the drug. It does however sometimes have side effects including heartburn nausea flatulence these do improve over time advise to always take with or just after food.

Insulin (injection)

Insulin may be needed to control blood glucose levels. This must be given by subcutaneous injection under the skin. There are different types of insulin regimens, insulin will be targeted to the times that the blood glucose is out of target range. Your diabetes team will show you how and when to inject.

Remember:

- If the insulin is cloudy tip the pen 10 times and roll it 10 times to mix the insulin.
- Before injecting, check the pen is working by doing an air/safety shot of 2 units of insulin.
- Inject at a 90-degree right angle and hold down the button for at least 10 seconds.
- Inject into outer thighs, buttocks or abdomen and remember to rotate injection sites.
- Take the needle out slowly and place the needle in a sharps box.

Post delivery

Baby

Your baby's blood glucose will need to be monitored after delivery, this is because their blood glucose can go too low. This is done by obtaining a small amount of blood from their heal. This is called neonatal hypoglycaemia. This may affect your length of stay in hospital, at least 24 hours is recommended. It is ideal that the baby feeds as soon after delivery as possible. You will still be able to breast feed your baby.

Mum

As soon as you have had your baby you will be able to stop any medication you have been taking. You will need to have your blood glucose tested before you leave the hospital just to check it has returned to normal level.

You will also need to book in at your GP surgery to have a blood test to check that you don't have Type 2 diabetes after you have had your baby. If this test is within the normal range you will need to have it repeated every year, the test is called and HbA1c. A good tip to remember when to book in for the annual test is around your baby's birthday.

Breast feeding can help reduce your risk of developing Type 2 diabetes in the future.

Type 2 diabetes

You are at an increased risk of developing Type 2 diabetes after you have had GDM. Type 2 diabetes can also contribute to:

- Heart disease
- Stroke
- Vision loss
- Nerve damage and blood circulation problems
- Hypertension (high blood pressure).

Whilst Type 2 diabetes is a serious condition, with support 3 out of 5 cases can be prevented or delayed by maintaining a healthy weight, eating well and being active.

The National Diabetes Prevention Programme (NDDP) will help you improve your knowledge, ability, and confidence to make better choices with:

- A healthy diet
- Better exercise
- Emotional wellbeing
- Weight management

All of the above reduces the risk of developing Gestational Diabetes in any future pregnancy.

You won't be alone on the NDPP, you will be joining a small group of others who have also had Gestational Diabetes and are also at risk of developing Type 2 diabetes. In 13 sessions over 9 months your trained coach will provide motivation, resources, advice, and support you may need to increase your activity, and help you improve your diet - everything you need to make a positive difference to your life. There is also a digital option available to you.
Your maternity team will refer you to take part in this course after obtaining your consent.

Reducing your risk of progressing to Type 2 diabetes can also reduce the risk of problems future children. Including:

- Children being overweight or obese
- Higher blood pressure
- Increased risk of developing Type 2 diabetes
- Higher risk of GDM in females.

If you can scan the QR code this links to information sessions about the NDPP.