

# DO YOU HAVE A QUESTION ABOUT DIABETES?

#### TALK TO US.

Call or email the Diabetes UK Careline with any of your questions, concerns or feelings about living with diabetes.

0345 123 2399\*

careline@diabetes.org.uk 9am-7pm, Monday-Friday



If you've been diagnosed with gestational diabetes, this guide will help you to understand what it is and give you the right information you'll need to manage your pregnancy and labour in the best way possible. The good news is that with good management of gestational diabetes, you can increase your chances of having a healthy pregnancy and baby.

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Diabetes UK is the leading UK charity that cares for, connects with and campaigns on behalf of people affected by and at risk of diabetes. We are working towards a future without diabetes. For more information, please go to www.diabetes.org.uk, call 0345 123 2399\* or email info@diabetes.org.uk.

The information provided in this guide is correct at the time of publication. It is not a substitute for seeing a healthcare professional and is not intended to replace the advice given by a healthcare professional.

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<sup>\*</sup>Mon-Fri 9am-7pm. The cost of calling 0345 numbers can vary according to the provider. Calls may be recorded for quality and training purposes.

# **Understanding diabetes**

You've probably heard of diabetes – it's a condition that means you have too much glucose (sugar) in your blood. If your blood glucose levels are too high for too long, you can become extremely ill.

You may be less aware of a type of diabetes that affects pregnant women called gestational diabetes. It affects at least five in every 100 expectant women who do not have diabetes before their pregnancy. You may feel worried and have many questions, but the good news is gestational diabetes can be managed successfully throughout your pregnancy. This guide will help you to navigate your way through it, towards a healthy pregnancy and birth.

#### WHAT IS DIABETES?

There are many types of diabetes – the most common are Type 1 and Type 2. Type 1 diabetes develops when the pancreas stops making insulin, a hormone which controls the glucose levels in the blood. Type 2 develops if the pancreas

can't make enough insulin or the insulin it makes doesn't work properly (known as insulin resistance). If it's not treated (with medications, including insulin and/or changes to diet and lifestyle), blood glucose levels tend to stay high, and this can lead to a range of potentially serious health problems.

## WHAT IS GESTATIONAL DIABETES?

If you're reading this guide, you've probably been diagnosed with gestational diabetes or know someone who has. It's a type of diabetes that affects pregnant women, usually during the second or third trimester, and you, or someone you know, may be experiencing a range of emotions after diagnosis. Women with gestational diabetes don't have diabetes before their pregnancy, and after giving birth it usually goes away. In some women, diabetes may be diagnosed in the first trimester in pregnancy, and, in these women, the condition most likely existed before pregnancy.

Gestational diabetes is usually diagnosed through a blood test at 24–28 weeks into pregnancy.

Women who have had the condition in previous pregnancies may be tested earlier.

## WHAT CAUSES GESTATIONAL DIABETES?

The hormones produced during pregnancy can make it difficult for your body to use insulin properly, so being pregnant puts you at an increased risk of insulin resistance. And, because pregnancy places a heavy demand on your body, some women are less able to produce enough insulin to overcome the insulin resistance. This makes it difficult to use glucose properly for energy, so the glucose remains in the blood and the levels rise, leading to gestational diabetes.

The good news is that gestational diabetes can be managed successfully



## WHO IS AT RISK OF GESTATIONAL DIABETES?

Women can significantly reduce their risk of developing gestational diabetes by managing their weight, eating healthily and keeping active.

But you are at an increased risk if you:

- are overweight or obese
- have had gestational diabetes before
- have had a very large baby in a previous pregnancy (4.5kg/10lb or over)
- have a family history of diabetes (parent, brother or sister)
- have a South Asian, Black or African Caribbean or Middle Eastern background.

Having gestational diabetes can increase your risk of developing the condition in any future pregnancies, and you are also at a greater risk of developing Type 2 diabetes later in life.

# WHAT ARE THE SYMPTOMS?

You may have been shocked

to discover you have gestational diabetes – many women don't have any noticeable symptoms. Some of the symptoms of diabetes are similar to those experienced in pregnancy, but these are rare in gestational diabetes, and may include:

- passing urine more often
- increased thirst
- extreme tiredness.

Managing blood glucose levels during pregnancy is extremely important for the health of you and your baby. For some women, gestational diabetes can usually be managed with changes in diet and physical activity, but, in most cases, medications – including injecting insulin – may be needed.

# WHAT ARE THE POSSIBLE COMPLICATIONS?

Your midwife, doctors, nurses and dietitians will work with you and set you targets for your blood glucose levels. Monitoring your levels correctly and meeting your targets will reduce the risk of complications and increase

your chances of a healthy pregnancy. But if your gestational diabetes isn't managed properly, it can put you at an increased risk of developing complications.

Continuous high blood glucose levels can lead to:

- Needing to have your labour induced.
- Having a caesarean section.
- Having a larger than normal baby (macrosomia), which could result in a more painful birth and possible stress for the baby.
- Your newborn having low blood glucose levels (neonatal hypoglycaemia).
- Perinatal death your baby dying at around the time of the birth.
- Your baby having a higher risk of being overweight or obese and/or developing Type 2 diabetes in later life. As your child grows, managing their weight, eating healthily and being physically active will reduce this risk.



# **Testing explained**

When you're diagnosed with gestational diabetes, you should be given equipment so that you can regularly test your blood glucose levels at home. It's extremely important to check your blood glucose levels when you have gestational diabetes, so if you haven't been given a blood glucose meter, ask your diabetes healthcare team for one.

#### WHAT IS IT?

Blood glucose testing involves pricking the side of your finger with a special device called a lancet, and putting a drop of blood onto a test strip, which is then read by a blood glucose meter.

The meter will show a figure, which tells you what your blood glucose level is at that time. Everybody has glucose in their blood – but if the figure is too high or too low it can cause problems.

Testing your blood is helpful for the day-to-day control of your diabetes, detecting high and low levels, and also helping with discussions between you and your diabetes healthcare team about how best to manage your condition.

It is best to check your blood glucose levels before breakfast (fasting) and one or two hours after every meal. Keep a record of your results so that you can understand how your diabetes is being controlled. Your healthcare team will also be able to use this information to decide whether you need any extra support or medication.

Women with gestational diabetes are advised to aim below the following blood glucose target levels:

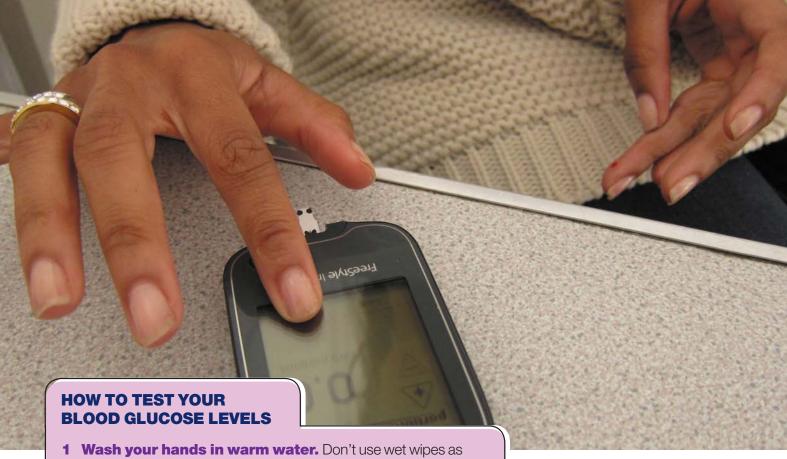
- fasting: 5.3mmol/land either
- one hour after meals:7.8mmol/l or
- two hours after meals: 6.4mmol/l.

Your healthcare team will advise you on how often to test your glucose levels and how you can safely achieve your individual targets.



# **Testing at home**

My blood	glucose targe	ets: Fasting:	One ho	our after meals:	Two hours after meals:					
Date	Medication or insulin and dose	Before meals (fasting)	One hour after meals	Two hours after meals	Comments					



- 1 Wash your hands in warm water. Don't use wet wipes a they contain glycerine, which could alter the result.
- **2 Make sure your hands are warm.** If they are really cold it's hard to draw blood, and finger pricking will hurt more.
- **3 Prick the side of a finger.** Avoid using your index finger or thumb as this can hurt more, and don't prick the middle or too close to a nail, because this can really hurt.
- 4 Use a different finger each time and a different part of the finger. This will hurt less.
- 5 **Keep a diary of your results.** This will help your diabetes healthcare team suggest any changes to your treatment, if needed.

It's extremely important to keep your blood glucose levels within targets, as this will help to reduce risks to you and your baby

# **Managing your diet**

Keeping your gestational diabetes under control is key to a healthy pregnancy and a healthy baby. The main aim is to keep your blood glucose levels as close to normal as possible. Lifestyle changes, including diet and physical activity, play an important role in the treatment of gestational diabetes. Some women are able to control their blood alucose levels without medications. However, as well as making changes to diet and physical activity, most women will need medications, including insulin, to help control their blood glucose.

Because you have gestational diabetes, you and your baby will be monitored more closely during pregnancy and labour. You should expect to have more:

- frequent appointments with your midwife and healthcare team
- blood and urine tests
- ultrasound scans.

See page 35 for more about what care to expect.

#### **HEALTHY EATING**

One of the best ways you can help manage your gestational diabetes is to start taking steps to make sure your diet is balanced and healthy. This is because the foods you eat are an important part of your treatment, just like testing your blood glucose, being active and taking prescribed medication. But, there is no one-size-fits-all approach when it comes to diet, so it's just as important to enjoy your food during pregnancy.

## TOP TIPS FOR EATING WELL

- 1 Careful with carbs all carbs affect your blood glucose levels, so be aware of the amount you eat. Your diabetes healthcare team will help you understand how carbohydrates affect your blood glucose control. You may be advised to:
  - eat less carbohydrate
  - choose better types of carbohydrates
  - spread your carbohydrates throughout the day.

Try to choose nutritious carbohydrate-containing foods, such as wholegrain starchy

foods, pulses, fruit and vegetables. Limit the intake of highly processed carbohydrate foods, such as white bread, refined cereals and ready meals that have added fat, salt and sugar.

- **Go low** choosing low glycaemic index (GI) foods helps to control blood glucose levels. Lower GI options include muesli, porridge, multigrain bread, granary/ seeded bread, wholewheat pasta, basmati rice, yam, plantain, quinoa, beans, lentils, dhal, and most fruits and vegetables.
- **Easy on the sugar** this doesn't mean a sugar-free diet, but aim to reduce the amount of added sugar you have. You can do this by:
  - reducing your intake of processed foods, especially sugary drinks, snacks and desserts
  - reading food labels and choosing low/reduced-sugar versions of food and drink where possible
  - knowing other names

for sugar on the food label – sucrose, glucose, dextrose, fructose, lactose, maltose, honey, invert sugar, syrup, corn sweetener and molasses

- making your own treats and experimenting using less sugar
- using artificial sweeteners

   some people worry about
   the safety of sweeteners, but
   talk through the different
   options with your healthcare
   team if you have any concerns.
- 4 Be regular eat meals on a regular basis, which usually means planning for three meals a day with or without healthy snacks and avoiding long gaps in between. This will help you control your appetite and blood glucose levels.
- Perfect your portion sizes

   this will help you manage
  your blood glucose levels and
  prevent too much weight gain
  during pregnancy.
- 6 Avoid 'diabetic' foods they offer no special health benefits, are expensive and may have a laxative effect.

## GLYCAEMIC INDEX - HOW IT WORKS

Glycaemic index (GI) is a ranking of carbohydrate-containing foods based on their effect on blood glucose levels. Foods that the body absorbs slowly have a low GI rating, while foods that are more quickly absorbed have a higher rating. This is important because choosing slowly absorbed carbohydrates instead of quickly absorbed carbohydrates can help to even out blood glucose levels.

Combining foods with different Gls changes the overall Gl rating of the meal. You can maximise the benefit of Gl by switching to a lower Gl option food whenever possible.

For example:

- Try wholegrain bread or wholegrain breakfast cereal, such as porridge.
- Add baked beans to your jacket potato and serve with a large green salad.
- Try a bean-based or vegetable soup.
- Eat a variety of different breads, such as grainy or

- pumpernickel bread, instead of white or wholemeal bread.
- Consider new potatoes or sweet potato instead of a standard potato with your meal.
- Choose long, thin rice grains such as basmati or wild rice instead of shorter or sticky rice. Or try quinoa, bulgur wheat or couscous as a lower GI alternative.
- Include plenty of vegetables with your meals.
- Include more beans and lentils in your meals – try adding them to casseroles and curries.
- Get into the habit of eating fruit and vegetables.
- Try low-fat yogurt but check the label for any added sugar.

Don't forget to think about portion sizes, as it's the amount of carbohydrate in the meal that will have the greatest effect on your blood glucose levels. Not all low GI foods are healthy, so make sure you look at the labels and make a healthy choice.

- **Get your five a day** easy ways to get more fruit and veg into your diet include using plenty of veg to bulk up your meals and snacking on fruit or vegetable sticks instead of sweets, crisps and biscuits. Don't go overboard with fruit juices and smoothies, though (drink no more than a small glass –150ml a day), and eat fruit throughout the day, rather than having a huge portion in one go. A portion is:
  - 1 piece of fruit, such as a banana or an apple
  - a handful of grapes
  - 1 tablespoon dried fruit.

## MORE WAYS TO EAT HEALTHILY

#### **Limit salt**

All adults are advised to eat less than 6g of salt each day – that's about one teaspoon. Having too much salt may raise your blood pressure, so take steps to reduce your intake by reading the labels on your foods. About three quarters of the salt we eat is found in processed foods like bacon, sausages, cheese, sauces, tinned foods in brine, sandwiches



and crisps, so limit your intake of processed foods and choose low/reduced-salt options whenever possible. Try the following:

- Cook with less salt. Experiment with peppers, herbs and spices to give food more flavour.
- Watch out for cooking sauces and seasonings like soy sauce or jerk seasoning – some of these are very high in salt.
- Ask for less or no salt in your dishes when eating out or having a takeaway.
- Remember, with time, your taste buds will get used to reduced salt in your food.

#### **Limit saturated fat**

Although fats don't directly affect your blood glucose levels, choosing the right type of fat can be beneficial for your heart health. Butter, cheese, ghee, lard and palm oil are all high in saturated fat, so swap these for small amounts of olive, rapeseed or sunflower oils and spreads. Practical ways to reduce your saturated fat intake include:

- reducing the amount of spread you put on bread – spread thinly
- using less fat in cooking try grilling, boiling, baking, steaming or poaching instead of cooking

- with added fat, eg frying
- using spray oil or measuring the amount of oil you use in cooking with a teaspoon instead of pouring it straight from the bottle
- choosing lean cuts of meat, trimming the visible fat and removing the skin from chicken and turkey
- trying low-fat options buy semi-skimmed or skimmed milk and low-fat and reduced-fat cheese instead of full-fat alternatives
- checking food labels (see page 17–19 for more information).

#### Snack attack

Limit your intake of calorie-rich but nutritionally poor snacks and drinks, such as sweets, cakes, crisps, fizzy drinks, energy drinks, etc. Instead, choose healthier snacks such as fruit and vegetables, vegetable sticks with hummus, yogurt, milky drinks, unsalted nuts and seeds, and avocado, but still be mindful of your portion sizes.

For more information and ideas, go to www.diabetes.org.uk/enjoyfood

#### A WORD ABOUT FISH...

Fish is good for your health and the development of your baby, so it's good to eat it regularly. The general recommendation is to eat at least two portions (one portion is about 140g) per week, including one or two portions of oily fish, eg mackerel, sardines, salmon, herrings, trout or pilchards. Oily fish is particularly beneficial to heart health but limit the intake to not more than two portions a week.

Avoid fish which tend to have higher levels of mercury, eg swordfish, shark and marlin, and limit the amount of tuna, which can have relatively high amounts of mercury compared to other fish we eat, to up to four medium-sized cans of tuna or two tuna steaks a week. It's also advisable to avoid raw shellfish to reduce the risk of food poisoning, which can be particularly unpleasant during pregnancy.

Ask for a referral to see a dietitian, who will be able to help you to make, and stick to, the necessary dietary and lifestyle changes, to manage your gestational diabetes and general health



#### **MANAGING YOUR WEIGHT**

Pregnancy isn't the time to be on a really strict diet. Don't aim to lose weight while you're pregnant – this could be unsafe for you and your baby. However, making small changes to your diet and physical activity levels can help you to avoid gaining too much weight during your pregnancy. It will help you to manage your gestational diabetes better and help to reduce the risk of complications.

It is also important to keep up with your dietary and lifestyle changes after you've had your baby, to reduce your risk of developing gestational diabetes in future pregnancies. It will help to reduce your risk of developing Type 2 diabetes, too.

Ask your healthcare team to refer you to a dietitian if you haven't met with one.





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www.diabetes.org.uk/enjoyfood

# **Reading food labels**

Food labels give us more information about what we eat and drink, although understanding them can be a bit of a headache at times.

They are found on the front and back of product packaging. 'Back of pack' labelling gives detailed information about the ingredients, nutritional composition, known allergens, 'best before' and 'use by' dates, as well as the weight of the product/pack.

'Front of pack' labelling is meant to help us understand quickly and easily what is in the food we buy, helping us to make informed choices based on how healthy a product is. Manufacturers and retailers had been using different systems for many years, and Diabetes UK has been campaigning for clear, consistent food labelling on the front of packs. The government recently announced its support for a 'front of pack' labelling scheme, which includes colour-coded labels and a guide to how much the food counts towards your daily recommendations. It's a voluntary scheme, but all major supermarkets and most large food and drink manufacturers have signed up.

The new label includes the:

- energy value in both kilojoules (kJ) and kilocalories (Kcal) for 100g/ml and per portion
- amount (in grams) of fat, saturated fat (saturates), total sugars and salt (colour coded according to the nutrient content)
- portion sizes, which are easily recognisable and meaningful, eg ¼ pie or one burger
- Percentage Reference Intakes, which tells you how much the portion of the food contributes to the maximum daily amount of energy, fat, saturated fat, sugar and salt for an average adult.

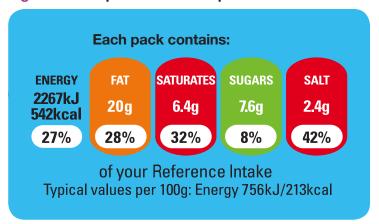


These amounts are based on an average-sized woman, doing an average amount of physical activity. Individual variations apply.

## 'FRONT OF PACK' FOOD LABELLING

These tell you if the product has low (green), medium (amber) or high (red) amounts of fat, saturated fat, total sugar or salt in the specified serving size (see Figure 1, right, for an example). Usually, the healthier the food, the more green lights it will have. Most foods will have a mixture of different-coloured lights, so try to choose products with more green and amber lights than red.

Figure 1 Example of a 'front of pack' label



#### THE CRITERIA FOR FOOD

The table below shows what values of fats, sugars and salt are considered as low, medium or high in a food product. Lower cut-offs apply for drinks.

All measures per 100g	Low	Medium	High
Fat	3g or less	>3g – ≤17.5g	More than 17.5g or >21g/portion
Saturated fat	1.5g or less	>1.5g – ≦5g	More than 5g or >6g/portion
Sugars	5g or less	>5g – ≤22.5g	More than 22.5g or >27g/portion
Salt	0.3g or less	>0.3g – ≦1.5g	More than 1.5g or >1.8g/portion

Note: portion size criteria apply to portions/serving sizes greater than 100g





#### **BECOME A MEMBER** 0800 138 5605

Join our 300,000 supporters who help us care for, connect with and campaign on behalf of all people affected by and at risk of diabetes.

#### **VOLUNTEER**

### www.diabetes.org.uk/ get\_involved/volunteer

Whether you can spare an hour a month or a day a week, there are many ways that you can make a difference at Diabetes UK.

#### **RAISE FUNDS**

# www.diabetes.org.uk/fundraising

There are many ways you can raise funds or give to Diabetes UK. Go to our website to find out how you can help us to improve the lives of people with diabetes.

\*Calls may be recorded for quality and training purposes.

# DIABETES UK CARE, CONNECT, CAMPAIGN.

#### **CALL OUR CARELINE**

0345 123 2399\*

A free and confidential service offering information on living with diabetes and giving people the opportunity to talk things through.

# JOIN A LOCAL GROUP volunteering@diabetes.org.uk

Our local support groups offer the chance to share experiences with others in your area and keep up to date with our work.

#### **GO ONLINE**

#### www.diabetes.org.uk

Our website offers information on all aspects of diabetes and access to our activities and services. Our Facebook and Twitter communities provide support and a chance to talk to others.



# **Physical activity**

We all know that regular physical activity is good for our overall health, but it can be particularly helpful in managing blood glucose levels and helping to keep your gestational diabetes under control.

This is because:

- It increases the amount of glucose used by your muscles for energy, so it usually lowers blood glucose levels.
- Being active helps the body use insulin more efficiently. Regular activity can help reduce the amount of insulin you need.

## THE BENEFITS OF BEING ACTIVE

Exercise has plenty of benefits for your overall health and wellbeing. Being active:

- reduces your risk of a range of conditions, including heart disease and stroke
- improves your circulation
- helps manage your weight
- helps to make everyday tasks (such as climbing stairs) easier
- boosts your self-esteem
- reduces depression and anxiety
- improves sleep.

The general advice is for adults to do 150 minutes of moderate-intensity activity a week, eg 30 minutes, five times a week. You can do this by walking for 30 minutes after a meal. Moderate-intensity activity or exercise warms you up, and makes you breathe harder and your heart beat faster, but you should still to be able to hold a conversation while you are doing it.

Choose a physical activity that you enjoy, but here are a few ideas:

- walking (briskly, if possible)
- swimming
- aqua aerobics
- low-impact exercise tailored to pregnancy
- pregnancy pilates or yoga.



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#### **GET PHYSICAL**

- **1 Find an activity you enjoy**, as you'll be more likely to keep it up. Better still, try taking up an activity the whole family or your friends can enjoy, such as swimming.
- 2 Set yourself daily, weekly and monthly targets try to improve them slightly each week and month.
- **3 Keep a physical activity diary** to track your progress and celebrate your successes. There are lots of apps and online charts you can use for free.
- 4 Use the stairs instead of a lift or escalator.
- **5 Walk short journeys** rather than using the car or bus.
- **6** Get off the bus or train a stop earlier and walk.
- 7 Go for a brisk walk during your lunch break, or leave the house half an hour before you are due to pick your children up from school/nursery.
- **8 Get up and walk about regularly** if you're in a sedentary job or are sitting down for long periods of time.

Remember to keep yourself hydrated – especially in warm weather – and be careful not to overdo the exercise when you first start. If you have been physically inactive for a while, it's important to build up your activity levels gradually over time.

If you treat your gestational diabetes with **insulin** or the tablet **glibenclamide**, exercising may increase your risk of **low blood glucose levels** (hypoglycaemia or 'hypo'), so make sure you test your blood glucose levels regularly. Also, carry some fast-acting carboydrate (like glucose tablets) with you in case you have to treat a hypo. See page 30 for more on hypos.



# **Staying healthy**

#### **ALCOHOL**

There is some debate about the safety of alcohol intake during pregnancy. The safest option is not to drink alcohol at all while you're pregnant. It is particularly important to avoid alcohol during the first three months of pregnancy, as alcohol may be associated with increased risk of miscarriage.

We all know that binge drinking is not good for our health. For pregnant women, getting drunk, or binge drinking (drinking more than 7.5 units of alcohol on a single occasion) can be harmful to your baby. So, if you choose to drink alcohol during pregnancy, it is advisable to stick to a maximum of 1–2 units once or twice a week. Alcohol can also make hypoglycaemia (hypos) more likely, if you treat your gestational diabetes with insulin or glibenclamide.

#### **SMOKING**

If you smoke, it is extremely important to consider quitting. This is because smoking can harm your unborn baby. Smoking can restrict the essential oxygen supply to your baby. Being pregnant may be the added incentive to try quitting.

If your partner or anyone else who lives with you smokes, be aware that their smoke can also affect you and your baby before and after birth. You may want to discuss these risks with them. Ask for support from your diabetes healthcare team.

There is a lot of free support, including the NHS Pregnancy Smoking helpline **0800 123 1044**, which offers free help, support and

advice on stopping smoking when you're pregnant, including details of local support services. You can also call Quit on **0800 002 200** or go to **www.quit.org.uk** for support and advice. In Scotland, call Smokefree on **0800 848 484** or go to **www.nhs.uk/smokefree** 

#### **UNITS OF ALCOHOL**



PUB MEASURE (25ml)

(25ml) spirit, eg vodka, gin, whisky (40% ABV approx)



**1.5 BOTTLE**(275ml)

(275ml) alcopop (5.5% ABV)



**1.5** SMALL

GLASS (125ml) white, rosé or red wine (12% ABV)



2

CAN (440ml) lager, beer or cider (5% ABV)

# Medication

## Do I need to take medication?

Depending on your blood glucose levels when you were diagnosed with gestational diabetes, your diabetes healthcare team may advise you how to control diabetes with changes to your diet and physical activity levels without the need for medication.

If changes in diet and physical activity don't help you to stay within your blood glucose target range within one to two weeks, your healthcare team will offer medication and will talk through the options with you. In some cases, your team may discuss medications with you at the time of diagnosis without the need for trialling dietary and physical activity changes first.

Even when medications are needed, changes to diet and physical activity are essential in helping to control your blood glucose levels.

#### **MEDICATIONS**

**Metformin:** This is a medication that helps to reduce the amount of glucose produced by the liver and to make your insulin work properly. It is taken with or after a meal.

**Glibenclamide:** This tablet works by stimulating your pancreas to make more insulin. It is taken with or immediately after food.

Insulin: Insulin is a hormone that allows glucose – the body's main fuel – to enter the cells and to be used for energy. It can't be taken orally, otherwise the stomach will digest it. It is usually given as an injection using a small needle just under the skin. If you need insulin to treat your diabetes, your healthcare team will teach you how to inject safely.

#### **SIDE EFFECTS**

All medications have side effects. Therefore, it is important that you check the **patient information** leaflet (PIL) supplied with your medication to see which side effects you might experience from your particular medication. Remember that you are unlikely to experience all side effects that are listed, and you may not experience any at all. If you do, speak to your healthcare team who will support you to understand your options.



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Even though the patient information leaflets (PIL) for metformin and glibenclamide state that these medications shouldn't be used during pregnancy, both are used in the UK to help manage diabetes in pregnancy and lactation. There is strong evidence for their effectiveness and safety. Your diabetes healthcare team will consider the likely benefits from improved glycaemic control against any potential harm. Talk to your healthcare team if you have any worries.

#### **ACTION POINTS**

#### **TREATMENT**

Discuss treatment options with your diabetes healthcare team.

Report any side effects of your medications.

Don't stop taking your medications without discussing it with your healthcare team.

#### REMEMBERING TO TAKE YOUR MEDICATION

- 1 Make a habit of it Link your medication to a part of your daily routine, eg always taking it around your mealtimes, storing it close by to remind you.
- **2 Sort it** A pill sorter or weekly dosette box can help you to keep track of which pills to take when and whether you've taken them.
- **3 Sticking point** Sticky note reminders can also help.
- **4 Keep a spare** Always carry an extra dose with you.
- **5 Vital info** Keep an up-to-date list of your medication, the doses and how and when to take it.
- **6 It's a date!** Make a note in your diary so that you order repeat prescriptions in plenty of time, or join your pharmacy's repeat prescription service.
- **7 Cause for alarm** Set an alarm or reminder on your phone or computer.
- **8 App & running** Download an app to your mobile device as well as reminding you when to take your medication, some track the remaining quantity and show a refill alert when you're running low.



# **Using insulin**

Your diabetes healthcare team may discuss the option of using insulin to treat your diabetes. This doesn't mean that you have developed Type 1 diabetes. You still have gestational diabetes, which is treated with insulin, and changing your treatment doesn't change your diagnosis.

## HOW AND WHERE DO I INJECT?

- **1** Make sure your hands and the area you're injecting are clean.
- 2 Eject two units of insulin into the air to make sure the tip of the needle is filled with insulin (this is called an 'air shot').
- 3 Choose an area where there is plenty of fatty tissue, such as the top of your thigh or your bottom.
- 4 If you have been advised to, lift a fold of skin (the lifted skin fold should not be squeezed so tightly that it causes skin blanching or pain), and insert the needle at a 90-degree angle. With short needles you don't need to pinch up, unless you are very thin. Check with your healthcare team.
- **5** Put the needle in quickly.



- 6 Inject the insulin, making sure the plunger (syringe) or thumb button (pen) is fully pressed down and count to 10 before removing the needle.
- 7 Release the skin fold and dispose of the used needle safely.
- 8 Remember to use a new needle every time. Reusing a needle will make it blunt and can make injecting painful.

#### **INSULIN Q&A**

#### Who will teach me?

Someone from your diabetes healthcare team will teach you how and when to inject and work with you to find the right insulin dose.

#### Will it hurt?

The needles used are very small and you inject under the skin (subcutaneously) – not into a muscle or vein. At first, the injections may be a little painful or uncomfortable, but this is usually because you are tense or anxious. As your confidence grows, injecting will get easier and soon it will become second nature.

# Can I inject into my abdomen?

Insulin absorption is most consistent with injection in the abdomen. You may be worried about injecting in this area while pregnant, but with a short (4–6mm) needle, insulin can be delivered into the fatty layer safely. Avoid the area too close to your belly button. Speak to your healthcare team if you have concerns.

# Will injecting into my abdomen hurt my baby?

Your baby is growing in the uterus, which is several layers below the skin. Insulin needles are very short and can't touch your baby. Speak to your healthcare team about shorter needles.

# Why do I need to change where I inject in my body?

If you keep injecting into the same area (and site), small lumps can build up under the skin. They don't feel very nice and they make it harder for the body to absorb and use the insulin properly. So it's important that you change the spot you use each time.

# What should I do with my needles and lancets when I have used them?

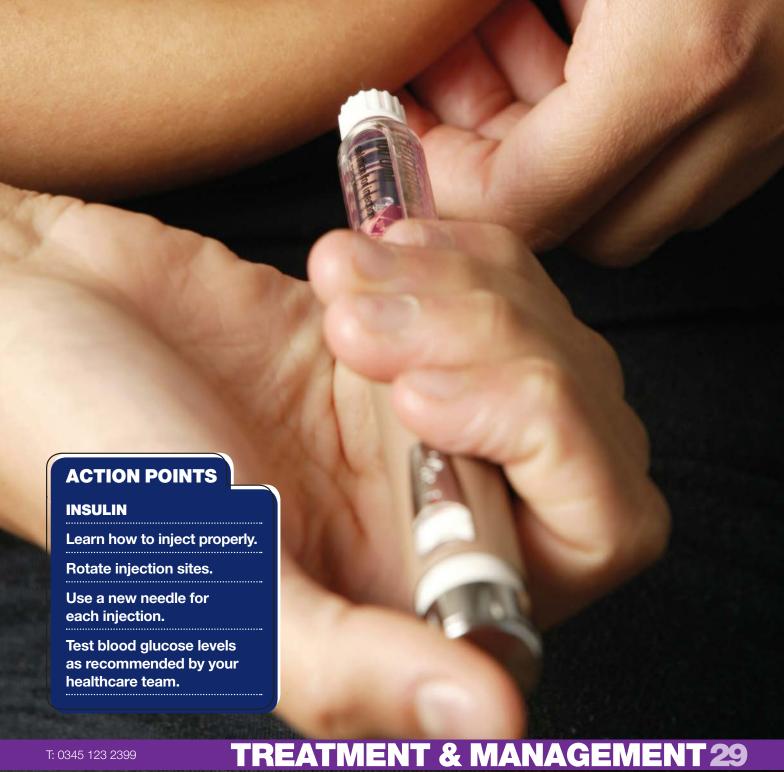
Always dispose of needles and lancets (the device you use when testing your blood glucose levels, to prick your finger to draw blood) in a special sharps disposal bin and not in your normal rubbish bin. Sharps disposal bins and needle clippers are available for free on prescription and are designed to keep people safe from harm.

## What happens when my sharps disposal bin is full?

Arrangements differ across the UK, so speak to your healthcare team to find out what you need to do.

#### **CARELINE**

Moving on to insulin can be emotional. Diabetes UK has a dedicated Careline you can call if you need to talk to someone. Call 0345 123 2399\* (Monday–Friday, 9am–7pm) or email careline@diabetes.org.uk \*Calls may be recorded for quality and training purposes.



# **Hypos and hypers**

An important part of managing your gestational diabetes is understanding how your blood glucose levels are affected by the food you eat, the exercise you do and any medication you take, and then finding the best way to keep them within the healthy range. This is a bit of a balancing act, and there will be occasions when your blood glucose levels are higher or lower than your targets. The correct term for high levels is hyperglycaemia (hypers), while hypoglycaemia (hypos) refers to when they are low. It's important that you know how to spot them and how to manage them.

#### **HYPOGLYCAEMIA (HYPOS)**

Hypoglycaemia occurs when your blood glucose levels drop too low, usually below 4mmol/I for pregnant women. Hypos are more likely to occur if you are taking insulin or the tablet glibenclamide. Being aware of the early signs of hypoglycaemia will help you to treat your low blood glucose levels very quickly, and help you to bring them back to within your normal range.

Everyone has different symptoms of a hypo, but the most common symptoms include:

- feeling hungry
- trembling and shakiness
- sweating
- becoming anxious or irritable
- becoming pale
- palpitations and a fast pulse
- tingling sensation of the lips
- blurred vision.

We don't always know why hypos happen, but they are more likely if you:

- have taken too much diabetes medication for the amount of carbohydrate you have eaten
- miss a meal
- exercise more than usual (or it was unplanned).

It's important that you treat a hypo as soon as you recognise the symptoms or test your blood glucose levels and find they are low. You should act quickly or the hypo may become more severe and you might become confused, drowsy or even unconscious and have a fit.

#### **HOW TO TREAT A HYPO**

If you are conscious, treat your hypo immediately with 15-20g of

faster-acting carbohydrate, such as:

- at least three glucose tablets
- five sweets, such as Jelly Babies
- glucose gel
- a small glass of sugary (non-diet) drink.

If you find it more practical, you can also use a small carton of pure fruit juice.

Glucose gel (available on prescription if you are treated with insulin) may be used if you are feeling drowsy, and if you are able to take it yourself or someone can help you, but it shouldn't be given to you if you are unconscious.

You may need to follow the initial treatment with a snack of 15–20g of slower-acting carbohydrate to stop your blood glucose levels from getting low again. This can be a sandwich, piece of fruit, some cereal or biscuits and milk – or even your next meal, if it's due.

It's recommended that you retest your blood glucose levels after 15–20 minutes and treat again if your blood glucose levels are still less than 4mmol/l.

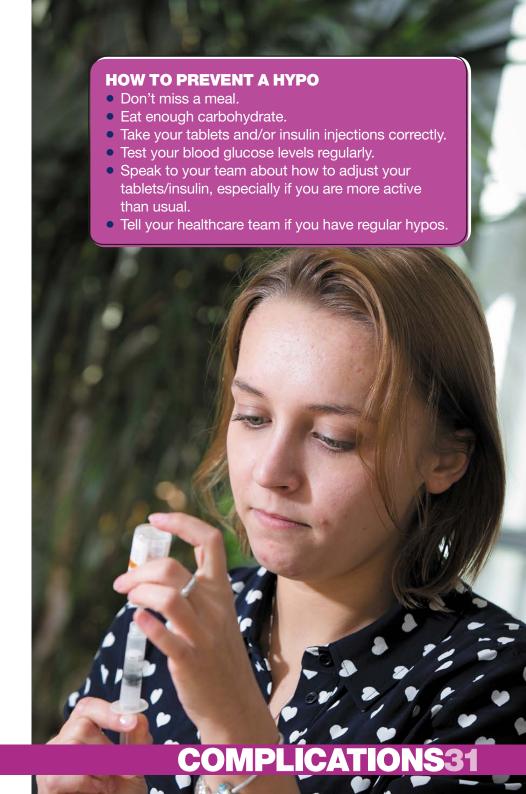
If you have a hypo, speak to your diabetes healthcare team, who will help you to understand which treatment works best.

## IF YOU BECOME UNCONSCIOUS

If you have a severe hypo and become unconscious, someone will need to call an ambulance for you. It is important for them to inform the operator that you are pregnant and you have diabetes. Make sure your family and friends are aware that they must not give you anything by mouth if you are unconscious or unable to swallow. Always tell your healthcare team if you have had a severe hypo. If this is a particular problem for you, talk to them about how this can be resolved.

#### **TOP TIP**

Don't treat a hypo immediately with foods that are high in fat, such as chocolate and biscuits, because fat delays the absorption of the glucose and won't treat the hypo quickly enough.



# YOU'RE NOT ALONE WITH DIABETES BECOME A MEMBER

**JOIN US TODAY** 











# Diabetes UK is the leading charity that cares for, connects with and campaigns on behalf of all people affected by and at risk of diabetes.

Over 300,000 supporters are the bedrock of the work we do at Diabetes UK to:

- Help people manage their diabetes effectively by providing information, advice and support.
- Campaign with people with diabetes and with healthcare professionals to improve the quality of care across the UK's health services.
- Fund pioneering research into care, cure and prevention for all types of diabetes.

Every supporter makes a difference to the lives of those affected by diabetes. Members also receive *Diabetes Balance* magazine every two months, with the latest information about living with diabetes.

Join today. Call 0800 138 5605 or go to www.diabetes.org.uk/join





## HYPERGLYCAEMIA (HYPERS)

At the other end of the scale is hyperglycaemia (hypers). This happens when your blood glucose levels are too high – usually above 5.3mmol/l before a meal, above 7.8mmol/l one hour after a meal, or above 6.4mmol/l two hours after a meal – but your healthcare team will give you your individual targets. There are several reasons why hypers may happen. It may be that you:

- have missed a dose of your medication
- have eaten more carbohydrate than your body and/or medication can cope with
- are stressed
- are unwell from an infection
- over-treated a hypo.

Most people won't experience symptoms if the blood glucose levels are slightly raised, but the rare symptoms may include:

- passing more urine than normal, especially at night
- being very thirsty
- headaches
- tiredness and lethargy.

#### **HOW TO TREAT A HYPER**

Treatment of a hyper will depend on what caused it. If you keep having hypers, talk to your diabetes healthcare team, as they may need to look at your medications and talk to you about your lifestyle. If your blood glucose level is high for a short time, emergency treatment may not be necessary. But if it stays high you'll need to take action:

- Drink plenty of sugar-free fluids.
- If you take insulin, you may need to have extra – your healthcare team will show you how.
- If you're feeling unwell, especially if you're vomiting, you must contact your healthcare team immediately for advice.

You may not have any symptoms, which is why it is important to check your blood glucose levels regularly and keep a record so that you can discuss any concerns with your healthcare team.

#### HOW TO PREVENT A HYPER

- Be aware of how your carb portions affect your blood glucose levels.
- Keep as active as possible.
- Remember to take your diabetes medication at the times and in the way you have been advised.
- You may need more medication – talk about this with your diabetes healthcare team.
- If you are ill (eg with an infection or cold), contact your healthcare team for advice.

#### **ACTION POINTS**

#### **HYPERS**

Understand the main causes of a hyper.

Test your blood glucose levels regularly as recommended.

Speak to your team if you are having regular hypers.

# What care to expect

When you have gestational diabetes, it's important to understand the care you are entitled to and what to expect. You should expect to have more appointments, tests and scans than other pregnant women in order to make sure your pregnancy is going as smoothly as possible. You should also expect to have contact with the diabetes and antenatal team every one to two weeks throughout your pregnancy.

#### **APPOINTMENTS**

One of the most important things you can do to ensure that you have a healthy pregnancy is to make regular appointments with your healthcare team – and keep these appointments.

Your team will work with you to ensure that your blood glucose levels are within target range throughout your pregnancy, as well as during labour. This is because keeping your blood glucose levels within target during pregnancy increases your chances of having a healthy pregnancy and baby. Also, high blood glucose

levels during labour increase the risk of your newborn baby having a low blood glucose level (neonatal hypoglycaemia).

You can get the most out of your appointments by taking the following steps before, during and afterwards:

#### **Before the appointment**

- Decide what you need to know and write down the points you want to raise in a notebook, along with your testing results and any questions you have.
- Take your blood glucose meter and results record with you.
- Take any news features/stories or research you might have found that have raised any questions about gestational diabetes.
- If possible, take a relative or friend with you and try to leave small children with someone else, so that you can give your full attention to the appointment.

#### **During the appointment**

 Listen actively – ask questions, give feedback and ask for clarification if you're unsure of anything, such as what your test results mean.

- Make notes in your notebook to help you remember what has been said, keep a note of the date and the name of the person you talk to, and find out who you should contact in an emergency.
- Check you've covered everything on your list before you leave.
- Make sure you are clear about what happens next, and what you need to do to prepare for your next appointment.

#### **After the appointment**

- Review what's been said and agreed.
- Make a note of anything you need to do before your next appointment in your notebook.

#### **ACTION POINTS**

#### **APPOINTMENTS**

If you're not sure who the members of your healthcare team are, ask your midwife or GP.

Keep all your appointments.

## DURING LABOUR AND BIRTH

Women with diabetes are advised to give birth in a hospital, because arrangements can be better made at any time to solve problems that may arise during birth. During labour and birth, your blood glucose levels will be monitored closely (every hour) to ensure they are between 4–7mmol/l. If your levels are outside of this target, you may need to have an intravenous (IV) treatment (drip) to bring them within this target range.

Your baby will be kept with you unless the team has any concerns. Your baby will need to be fed soon after birth (within 30 minutes) and then frequently (every two to three hours). Your baby's blood glucose will be tested every two to four hours. This is to prevent their blood glucose from falling too low (neonatal hypoglycaemia). They will also be monitored closely to make sure everything else is OK. If your team has any concerns, they may transfer your baby to a special unit (neonatal unit) for further monitoring and treatment, if needed.

You and your baby will be monitored in hospital for at least

24 hours before you will be discharged. Your healthcare team will have to be satisfied with your baby's feeding and blood glucose levels.

## WHAT HAPPENS AFTER I'VE HAD MY BABY?

Most women's blood glucose levels return to normal after labour, so if you're taking diabetes medication, this will be stopped immediately after birth. However, in some cases, pregnancy uncovers existing diabetes, so some women will need to continue to receive treatment for their condition.

After having gestational diabetes, you are at an increased risk of developing the condition in future pregnancies, and you're also more likely to develop Type 2 diabetes later on. There are a number of ways you can reduce these risks:

- 1 Have your blood glucose levels tested before you leave hospital.
- 2 Arrange a blood test for diabetes at your six-week postnatal check.
- 3 Look out for any symptoms of diabetes and arrange to see your GP/nurse if you are concerned. These may include:

- passing urine more often, especially at night
- extreme tiredness
- increased thirst
- unexplained weight loss
- slow healing of cuts and wounds.
- **4** Arrange to have an annual test for diabetes via your GP or nurse.
- 5 Continue with healthy eating and regular physical activity.
- **6** Take steps to make sure you manage your weight.
- 7 Get support if you need to lose weight – ask to see a dietitian or join a weight management group.
- 8 During future pregnancies, let your healthcare team know that you have a history of gestational diabetes. You will be given a blood glucose meter to test at home, and an earlier test to check whether you have developed it again.



# Personal experience

Vicky Honour (pictured, overleaf), a journalist from London, describes how she managed her gestational diabetes and offers her tips that may help you.

It was Christmas Eve when the midwife phoned.

"Your 28-week blood test showed high sugar (glucose) levels. I've booked you in for an oral glucose tolerance test (OGTT), but try to stick to brown bread and rice in the meantime."

That made for a fun Christmas!
But I never seriously thought I could have gestational diabetes (GDM)
– I wasn't overweight, had always eaten healthily, and was known to be a bit of a gym bunny.

At 38, I was an older mum, but I hadn't had GDM in my first pregnancy, with my son Jack, 3, and just put the result down to the piece of cake I'd eaten the day of my blood test.

The day after my OGTT, the midwife phoned again. "I'm afraid it is gestational diabetes." she said.

I burst into tears. It felt so unfair – and so overwhelming. I had very little idea what diabetes was, only that my pregnancy was now classed as higher risk.

A few days later I went to the diabetes clinic where a nurse explained the importance of keeping my blood sugar levels stable. If they were consistently too high, there was a risk that my baby would grow too big – and there was also an increased risk of stillbirth. Pregnancy was already such a huge responsibility. Now I had this hanging over me.

The day after diagnosis I had a series of appointments, where a dietitian explained that it was possible to control the GDM through diet. I'd already realised that my cake-eating days were over, but she said I'd need to limit certain carbohydrates, too.

Bread, pasta, potatoes – even porridge – could now push my blood sugars up if I ate bigger portions.

Luckily, I'm not a very 'carby' person, and a diet geared more towards protein and vegetables wasn't a great hardship, although it meant no more 'treats'. If I couldn't control my blood sugars through diet I'd be put on medication – metformin, or insulin, which would mean needing daily injections. I hate injections, and was determined to

make the diet work.

The diabetes nurse gave me a blood glucose testing kit, to test my sugars four times a day – before breakfast, then an hour after each meal. For a week I pricked my finger diligently and wrote down the levels, trying to keep under the maximum levels I'd been given.

At first it was trial and error. A bowl of spinach soup and slice of bread was too much, as I'd forgotten I'd made the soup with potato, but I became more used to it.

There was always a pause before each reading, then a beep, and I'd feel elated or guilty, depending on the result.

Pregnancy was already such a huge responsibility. Now I had this hanging over me

'Not bad,' was the verdict, and I was given another week's reprieve from medication, and then another.

I limped through the last 10 weeks of pregnancy; a renegade sandwich one week, too many potatoes another, but on the whole with my sugars well under control.

Exercise helped greatly, and I'd walk half an hour to work after breakfast, thereby 'earning' an extra spoonful of porridge.

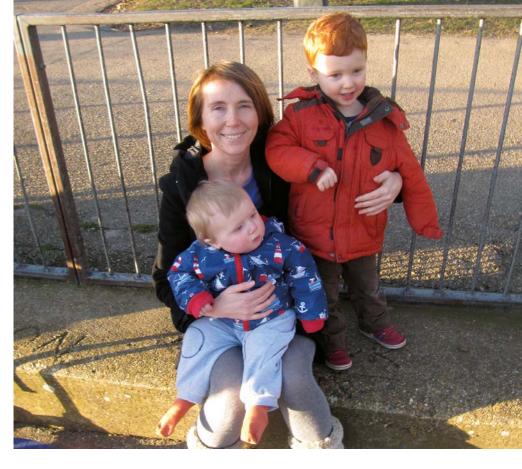
It was a stressful time, but I was closely monitored. A friend also put me in touch with another mum who'd had GDM and hearing how her baby was healthy and thriving was a huge relief.

After learning she'd been on insulin, I realised that I didn't have it so bad after all. I'd really recommend newly diagnosed mums to speak to other GDM mums if they can. The moral support really helps.

There were some advantages to GDM – I had far more scans than a second-time mother usually would.

I also stayed relatively svelte. I did turn into a sugar killjoy though, and made my family suffer disgusting pancakes made from ground almonds and coconut oil.

I'd really recommend newly diagnosed mums to speak to other GDM mums if they can. The moral support really helps



My biggest worry was my unborn little boy, but the consultant was very reassuring, and said there was no reason I couldn't have a full-term natural birth, as my sugar levels were under control, and the baby was growing normally. I requested an induction at 39 weeks though, knowing I'd feel so much happier when my baby was on the outside.

Thomas arrived so fast he was nearly born in the lift, a healthy 7lb 1oz and with no blood sugar issues at all.

Six weeks later I had a follow-up

blood test, which showed my blood sugars were back to normal, although I'll have to be tested every year for diabetes. I know I'm at higher risk of developing Type 2 diabetes now, which is a worry but also an incentive to keep healthy.

I get lots of exercise running around after Jack and Thomas, now 1, and if I do have the occasional treat, I make sure I savour every mouthful!

# **Your checklist**

In the relatively short time Make sure that you have Ask to see a dietitian to that you will have gestational a Maternity Exemption talk about your diet and diabetes, it can be a lot to take Certificate or Card. which physical activity. in. This short checklist will help will entitle you to free you make sure you are getting prescriptions. Ask your GP the right care and information. or diabetes healthcare team, if you don't already Make sure that you have one. Make sure you know understand gestational who to call if you need diabetes and how it Make sure you know the extra support. is treated. members of your healthcare team and what they do to Ask for a blood glucose help you. meter and agree your individual targets. ..... Make sure that you **MY TARGETS** understand how to treat Fasting: a hypo and a hyper. One hour after meals: Two hours after meals:



# Your questions answered

## Why should I check my blood glucose levels at home?

Testing your blood glucose levels at home will help you to understand how your diet, activity levels and any medications you take affect your diabetes control. It's a way of making sure your diabetes is being managed properly. Your diabetes healthcare team will advise you when to test, how often to test and what targets to aim for.

#### Will my baby be OK?

Having gestational diabetes increases your risk of complications in pregnancy. High blood glucose levels can make your baby grow larger, especially around the chest, shoulder and abdomen, which may lead to difficulties during delivery. You can reduce these risks by managing your blood glucose levels with prescribed medications, and/or healthy eating and regular physical activity.

#### Will my baby have diabetes?

Your baby will be at no greater risk of developing diabetes in childhood than any other baby. However, having gestational diabetes means your baby may have a higher risk of being overweight or obese and/or developing Type 2 diabetes later in life.

## Am I at risk of developing Type 2 diabetes?

Having gestational diabetes increases your risk of developing the condition again in future pregnancies. It also increases your risk of developing Type 2 diabetes in the future. It's important to eat healthily and take regular physical activity during pregnancy, and to keep it up after pregnancy. This will reduce your risk of developing gestational diabetes again, as well as your future risk of developing Type 2 diabetes.

## Should I be aiming to lose weight now?

It's not recommended that you try to lose weight while you're pregnant because it can be unsafe for you and your baby. If you were overweight before pregnancy, making small changes to your diet and activity levels will help to avoid excessive weight gain.

# Are 'diabetic' foods good for me?

These foods are expensive and don't offer any special health benefits. They contain similar amounts of calories and fats as standard foods, can still affect blood glucose levels and may have

a laxative effect when eaten in excessive amounts.

#### What should I be eating?

Choose carbohydrates with a low glycaemic index (eg whole grains, pulses, fruits and vegetables), lean proteins (including oily fish), and healthy fats such as olive oil, sunflower oil, rapeseed oil, avocados and nuts. Limit calorierich but nutritionally poor snacks and drinks like sweets, cakes, crisps, fizzy drinks and energy drinks. Overall, aim for a healthy, balanced diet, and keep an eye on the portions and type of carbohydrate you eat.

#### **THE EXPERTS:**







Tracy Head of Care



# **Notes**

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