

# Healthy eating for Gestational diabetes

Information for patients



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Services**

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## Introduction

**This leaflet will help you to understand some of the key aspects of healthy eating for gestational diabetes.**

Gestational diabetes is a type of diabetes that arises during pregnancy. It occurs because the body cannot produce enough insulin to meet the extra needs of pregnancy due to higher hormone levels and weight gain.

Insulin is a hormone that moves the glucose from your blood to other parts of the body where it is needed for energy. If you don't make enough insulin, the level of glucose in your blood will rise above normal levels.

Most pregnant women can produce extra insulin to cope with the increase in glucose, but for some women, the body is unable to produce enough insulin to keep blood glucose at normal levels.

## Controlling blood glucose levels with diet

You may have to make changes in your diet to help control blood glucose levels:

### 1. Eat regular meals

Have at least three meals a day and snacks at regular intervals. This will help to prevent excessive changes or fluctuations in your blood glucose levels.

Snacks are not essential to maintain blood glucose levels, but are encouraged. They can help spread your intake across the day and stop you feeling hungry. It is best not to leave very large gaps in between mealtimes as this can often result in a bigger meal. Please see the 'Suitable snacks' section for snack ideas. If you have a small appetite, are nauseous or suffering from heartburn, you may find smaller more frequent meals more comfortable.

### 2. Be carbohydrate aware

All foods containing carbohydrates are broken down into glucose (sugar) when digested, and enter the bloodstream as glucose. The more carbohydrates you eat with a meal, the higher your blood glucose level may go. It is therefore important to:

- Eat less carbohydrates at meal or snack time.
- Choose better types of carbohydrate.
- Spread your carbohydrate intake throughout the day.
- Have starchy carbohydrate as part of a healthy balanced meal, include a source of protein with your main meal.

It is still important that you include carbohydrate in your diet as this is your main source of energy.

### What are carbohydrate-containing foods?

There are two main sources of carbohydrates, namely starch and sugar.

## Starchy carbohydrates

Includes breakfast cereals, bread, rice, pasta, chapatti / roti, millett, semolina, maize, oats, rye, and couscous, flour-based products e.g. Yorkshire pudding, pastries, crumbed or battered products. Be aware that flour-based products are usually high in fat, therefore choose wisely.

Fist size starchy portions are suitable amounts to regulate your meal time glucose load. Starches should make up about a third of the total food we eat. In addition to energy, they provide vital nutrients such as calcium, iron and B vitamins.

Starchy carbohydrates are generally low in fat and calories and many are also high in fibre. Choose high fibre varieties like whole wheat or wholegrains as a slower digestion rate causes slower glucose absorption.

By choosing these types of carbohydrates, your blood glucose levels will rise more slowly and are therefore more likely to be within target.

**However**, still be aware of portion on your plate as the more carbohydrate, the higher rise in your blood glucose level.

Aim for 1-3 portions of starchy carbohydrate with a meal.

### One portion of starchy carbohydrate is roughly:

- 1 medium slice of wholemeal, granary, bran, rye bread.
- 1 small pitta bread or 1 small wrap, 1/2 chapatti or roll.
- 3 cream crackers, 2 large rice cakes or 2 Ryevita.
- 2-3 tablespoons of whole grain cereal e.g. All-Bran, oat cereal, Sultana Bran, Shreddies, Oat-Bran or 1 Weetabix.
- Small bowl porridge oats, no added sugar muesli.
- 2 egg-size boiled potatoes, 1/2 medium size baked potato.
- 1 tablespoons mash potato or sweet potato.
- 2 tablespoons of cooked basmati, brown or wild rice.
- 2 tablespoons of cooked pasta/noodles / couscous.

## Natural sugars - such as milk and fruit sugars

**Milk sugars (lactose):** This is found in milk and yoghurt, ice-cream, custard and milky puddings. This is also a good source of calcium. Aim to have 3 portions per day. One portion is roughly:

- 200ml of milk / milk alternative
- 125ml yoghurt. Aim for low sugar yoghurts - less 5g sugar / 100g
- 40g cheese (1 small matchbox).
- Try to not exceed more than 1 portion milk or yoghurt at a time - make sure you spread your 3 portions throughout the day.

**Fruit sugars (fructose):** This is found in all types of fruit, fruit juice and smoothies. Fruit should be limited to 1 portion per meal or snack. One portion of fruit is roughly:

- 1 small banana
- 1 medium apple / pear / orange / kiwi
- 12 medium grapes
- 2 rings of pineapple
- 2 small fruit e.g. clementines, satsuma
- 1 slice of large fruit e.g. watermelon, melon
- 7 medium strawberries.
- 150ml fruit juice
- 1 dessert spoon of dried fruit.

Spread fruit portions across the day

## Added sugar

Added sugars include sweets, biscuits, cake, chocolate and any foods where sugar is added and does not occur naturally. Eating foods which are high in sugar will make your blood glucose levels rise very quickly and out of target.

- Avoid having white / brown sugar, in coffee and tea or adding honey or syrup to foods. Artificial sweeteners can be used.
- Use sugar free or diet fizzy drinks and no added sugar squashes, flavoured water and slimline mixers.
- Ordinary jams and marmalades can be used in small amounts. Reduced sugar varieties are available.
- Have tinned fruit in natural juice instead of syrup or stewed fruit without sugar.
- Choose sugar free jellies, low sugar instant whip, low fat fruit yoghurts or fromage frais, low sugar milk puddings, a small portion of plain ice-cream.
- Limit chocolates and when you do have them, do so with a meal.
- Use reduced sugar milky drinks e.g. Options, High Lights, Ovaltine Light or Horlicks Light.
- Avoid sugar or honey coated breakfast cereals.
- Avoid energy drinks or sweetened juice drinks.
- Choose plain biscuits e.g. Hob Nob, digestive, rich tea, morning coffee or ginger nut 1-2 a day.

Special diabetic products have no added health benefits. They are often expensive and might cause diarrhoea.

Artificial sweeteners used in food and drink in the UK are safe to use in pregnancy in moderation.

Be aware of other names for sugar on the food label - sucrose, glucose, dextrose, fructose, lactose, maltose, honey, invert sugar, syrup, corn sweetener and molasses.

An alternative to chocolate is a sugar-free cocoa drink that could be made with semi-skimmed milk with artificial sweetener.

## Vegetable starch

Some root vegetables, such as pulses, beans, swede or sweetcorn for example, can also affect blood glucose. Consider their portion alongside your starchy carbohydrates at meal times.

### 3. Eat protein

Protein foods are important for the growth and development of your baby and your own health.

They have very little effect on blood glucose levels and help to keep you full. Add protein to meals and snacks to help provide enough calories, satisfy appetite and release glucose slowly in your blood.

Include at least two servings daily of lean chicken, fish, meat, eggs or cheese, beans, pulses, lentils, nuts and seeds. Soya, tofu or protein substitutes (Quorn, Vegemince) are good vegetarian protein alternatives.

Fish is good for your health and the development for your baby. The general recommendation is to eat at least 2 portions a week (1 portion = 140g), including 1-2 portions of oily fish, e.g. salmon, mackerel, pilchards, sardines, trout.

Avoid fish high in mercury e.g. swordfish, marlin, shark and limit tuna to either 4 medium tins a week or 2 fresh tuna steaks.

### 4. Fluid intake

Try to drink at least eight glasses of fluids each day – predominately water, 'no added sugar' squashes, diet drinks, herbal teas, low calorie hot chocolate drinks and small portions (200ml) of semi-skimmed milk are good alternative choices. It is best not to have too much caffeine a day (limit to 200mg):

- 1 mug filter coffee = 140mg
- 1 mug of tea = 75mg
- 1 mug instant coffee = 100mg
- 1 can of cola = 40mg.

### 5. Snacks

Make it a healthy snack, although avoid snacks with too much carbohydrate. Try not to exceed 15 g carbohydrate for a snack.

Snacks can be combined e.g. 1 rice cake is 5g carbohydrate, therefore 2 rice cakes with light cream cheese and cucumber will add up to 10g carbohydrate.

Lower carbohydrate snacks are recommended if you feel hungry between meals without the added worry of increasing your blood glucose levels.

## 15g CHO snacks

- Apple / orange / pear (medium)
- Banana (fun size)
- Bread / toast x 1 medium slice
- Yoghurt low calorie e.g. Muller light
- Popcorn unsweetened (handful)
- Rye crackers x 2
- Crisp bread x 2
- Cereal bar (Alpen light / 1 x go ahead).

## 10g CHO snacks:

- Biscuit - 1 digestive
- Biscuit - 2 rich tea / malted milk
- Breadsticks x 2 long
- Hot chocolate drink (light option)
- Milk 200ml glass
- Natural yoghurt
- Oatcakes x 2
- Pretzels x 3
- Soya fruit yoghurt
- Yoghurt low fat (125ml pot).

## 5g CHO snacks

- Fromage Frais 50g (small)
- Kiwi
- Plum
- Raspberries (small handful)
- Rice cake 1 plain / savoury
- Satsuma
- Strawberries - 6.

## 0g CHO snacks

- Almonds / cashews
- Avocado
- Boiled egg
- Carrot Sticks
- Celery / gherkins
- Cheese \*
- Lighter cream cheese / cottage cheese 30g
- Cherry tomatoes
- Cocktail sausages \*
- Cooked / cold meats
- Cucumber sticks.

\* High in saturated fat - be careful

## Fats in food and gestational diabetes

Try to minimise your fat intake through the following as we do not need to eat more during pregnancy:

- Use low fat cooking methods such as dry frying, steaming, baking, grilling and poaching.
- Use lean cuts of meat, trim the fats off meat and remove the skin from poultry. Use alternatives such as beans, pulses, peas and lentils.

- Try reduced fat and low fat spreads, especially those made from sunflower / olive oils and fat-free or low-fat salad dressings, mayonnaises and sauces.
- Use low fat dairy products, such as semi-skimmed milk.
- Cut down on snack foods such as biscuits, crisps, pastries, cakes and Indian savouries such as Bombay mix.
- In place of takeaways choose low-fat sandwiches, lean meat kebabs, grilled / baked fish and low fat chips.

**Some websites may suggest increasing fat content with meals - this can promote excess weight gain and is unnecessary.**

## How much weight should I expect to put on?

Being overweight on becoming pregnant puts you at a higher risk of developing gestational diabetes and type 2 diabetes in later life. Avoid gaining excessive weight if you were overweight when becoming pregnant.

Your calorie requirements do not increase during the first 6 months of pregnancy and only increase by 200 calories per day for the last 3 months.

This is usually met by a natural increase in appetite. A large weight gain can make it more difficult to control your blood glucose levels.

BMI pre-pregnancy	Recommended weight gain in total pregnancy
Less than 18.5kg/m <sup>2</sup>	<b>12.5 - 18kg</b>
18.5-24.9kg/m <sup>2</sup>	<b>11.5 - 16kg</b>
25-29.9kg/m <sup>2</sup>	<b>7 - 11.5kg</b>
30kg/m <sup>2</sup> and over	<b>5 - 9kg</b>

Source: Institute of Medicine & National Research Council, 2009

Pregnancy is not the time to try drastic methods to lose weight.

A healthy balanced diet is advised for the recommended weight gain.

Please discuss any concerns you have with your diabetes specialist dietitian who will be present at your clinic appointments. Being diagnosed with gestational diabetes can mean a lot changes to your diet. **It's a misconception that you need to 'eat for two'.**

## Physical activity

Regular gentle physical activity is important as it helps to keep you fit and controls weight. It will also help to improve your blood glucose levels.

Choose an activity you enjoy and aim to be more active in your day. Walking and swimming are the easiest exercises to do when you are pregnant. A simple activity such as a walking kids to school or during lunchtime can have positive effects.

- If you are normally very physically active you can continue doing so as long as it is safe. Check with your doctor first.
- Only exercise for as long as you feel comfortable doing it.
- Be aware of the increased risk of hypoglycaemia while exercising if you are on insulin. Ask for further information from the Diabetes Team.

If in doubt as to how much activity you can do, ask your midwife or doctor for advice.

## **Nutrients which are particularly important during pregnancy**

### **Folate**

Important for preconception and early pregnancy (first 12 weeks). This is found in green vegetables, fortified / whole grain cereals. Supplements are always recommended (4-5mg/day).

### **Calcium**

Calcium is important during the later stages of pregnancy for baby's bone development and maternal bone health. During pregnancy the body adapts by absorbing more calcium from food. It is still important to eat plenty of calcium rich foods.

#### **The best sources are:**

- Dairy products e.g. milk, cheese and yoghurt.
- Unsweetened milk alternatives with added calcium e.g. soya, rice or oat milk.
- Soya beans / nuts.
- Tofu.
- Green leafy vegetables e.g. spinach, broccoli, cabbage, okra.
- Beans.
- Fish where you eat with bones e.g. pilchards and sardines.

### **Vitamin D**

Vitamin D is required to help absorb the extra calcium. We get most of our vitamin D from summer sunlight. Consider taking a vitamin D supplement of 10 micrograms daily. Ask your GP, midwife or pharmacist for advice on supplements. You may also be eligible for free Healthy Start Vitamins, which contain folic acid, vitamin D and C.

### **Iron**

Iron is required for the formation of red blood cells. It is absorbed more efficiently from foods during pregnancy. However, women with low iron stores at the beginning of pregnancy or low dietary intake may need iron supplements to prevent anaemia.



Vary your diet and try to include some of the following every day:

- Lean meat, pork poultry.
- Eggs.
- Lentils.
- Beans.
- Nuts.
- Wholegrains e.g. brown rice.
- Fortified breakfast cereals.
- Most dark, green leafy vegetables e.g. spinach, kale, watercress.

If your iron level is low, this can make you feel very tired. Your GP or midwife will advise you to take iron supplements. These are available as tablets or a liquid.

Vitamin C can help your body absorb iron. Your iron tablets can be taken with good sources such as a small orange, handful of strawberries and blackcurrants, or red and green peppers, broccoli, brussels sprouts and potatoes.

Tea and coffee can make it harder for your body to absorb iron, therefore avoid these at mealtimes.

## Vitamin A

Avoid liver, pate, or cod liver oil, as high levels of vitamin A can harm your unborn child. Avoid supplements containing vitamin A in pregnancy.

## Common pregnancy problems

### Nausea and vomiting

- Eat small, frequent meals based on carbohydrates.
- Drink fluids between, rather than with meals.
- Avoid fatty / fried foods or highly spiced meals of snacks.
- Keep room well ventilated to reduce strong odours.
- Cold food may be better tolerated than hot food.
- Ginger in food and sugar-free drinks, may help to alleviate nausea.

### Heartburn

This is common during the last 3 months of pregnancy. If you do experience heartburn, try to:

- Eat small regular meals and snacks.
- Avoid fatty, spicy, acidic foods and fizzy drinks.
- Sit upright when eating.
- Avoid lying down after eating.
- Elevate your head with pillows when sleeping at night.

### Constipation

- Ensure a good fluid intake of at least 8-10 glasses of water a day.
- Eat more high fibre foods such as granary bread, and porridge. Have potatoes with their skin on.
- Increase fruit consumption (tinned, fresh, frozen).
- Try nuts or seeds, peas, beans, lentils in your diet.
- Gentle exercise can also encourage a healthy bowel.

## **Meal ideas**

### **Breakfast options**

- 1-2 portions wholegrain cereal with milk.
- 30g porridge (no sugar) with low fat crème fresh and berries.
- 1-2 medium slice wholemeal / granary bread / toast, low fat spread with poached / scrambled egg, mushroom, tomato and cheese.

### **Mid morning snack**

- 1 piece of fruit.
- 1-2 plain biscuits.
- Glass milk / small pot yoghurt.
- 2 oatcakes / whole wheat crisp bread with cream cheese / hummus / peanut butter.

### **Lunch**

- 2 portions wholemeal, granary bread / 1 pitta bread with lean meat, fish, egg or cheese.
- Couscous salad with plenty vegetables (unlimited).
- Piece of fruit OR diet yoghurt.

### **Afternoon snack**

- 1 piece fruit.
- 2 rice cakes with slice of ham and cucumber / avocado.
- 3 bread sticks with salsa dip / guacamole.

### **Evening meal**

- 1-3 portions potatoes / brown rice / pasta/ sweet potato with lean meat, fish, poultry, egg and vegetables OR salad.

### **Supper**

- Milky drink (no sugar) OR 3 crackers and cheese OR 1 whole meal toast OR small bowl wholegrain cereals/porridge.

## **Frequently asked questions**

### **What should I do if my blood glucose level is high after breakfast?**

Your body is naturally more insulin resistant in the morning, which can contribute to higher blood glucose levels. Think about increasing the protein content and reducing the carbohydrate content of your breakfast (see the 'Food swaps' section for ideas).

### **I have a baby shower/birthday/christening/ other event coming up before my due date - what can I eat?**

Buffet foods, afternoon tea and other celebratory meals are often high in carbohydrates and may contribute to high blood glucose levels on that day.

You can still enjoy yourself and consume these foods as a special occasion but do be mindful of your carbohydrate portion sizes; if your blood glucose reading is high then make a note of your celebration to inform your diabetes team. Being more active before and after the meal will help improve your insulin sensitivity and can help lower your blood glucose level after eating. Go for a 30-60 minute brisk walk as a practical example.

### **I always enjoy a chocolate treat each evening when relaxing. Can I still have some chocolate?**

Chocolate contains free sugars which will contribute to your blood glucose level but if eaten in small portions (3 small squares) should provide only a small glucose load. If eaten with a meal it will slow absorption of glucose into the blood stream and help reduce blood glucose spikes. Moderation is the key word (see your low carbohydrate snack list for more ideas).

### **What can I do about feeling hungry between meals?**

Because we advise you to reduce your meal time carbohydrate portions, hunger pangs are likely as your body may not be used to this reduction in meal size. Taking a 'little and often' approach to eating (by using low carbohydrate snacks in between meals) can help curb hunger and still provide you with the same amount of food you would normally consume - just spread out in smaller portions through the day.

### **I don't normally eat breakfast and sometimes I can go through until evening time before eating - is this a problem?**

We would encourage you to adopt a regular eating pattern e.g. breakfast, lunch, evening meal with 1 or 2 snacks between each meal, to: a) Regulate your appetite and prevent hunger and, b) Regulate the glucose load or portion size consumed at your meals. By going all day without eating you run the risk of over compensating at your evening meal by feeling extra hunger and requiring larger portions as a result. Little and often is the key.

### **I've been craving sugary drinks and sweet foods. Is this my baby asking for these foods because he/she needs it?**

Food cravings can be very misleading as they are not actually associated with you being deficient in a particular nutrient and they aren't demands from your baby either. Baby is getting all of their nutrients from your own stores, so eating a healthy diet will provide all you need. Sugar cravings are often associated with insulin resistance and reduced glucose clearance from the blood. If you are 'feeding your cravings' by consuming sugary foods then you are only creating a vicious circle and higher blood glucose levels which are then more detrimental. Try and distract yourself from those troublesome cravings and reducing your blood glucose may help keep them at bay.

## Suitable food swaps and hints

If you are getting high post-meal blood glucose levels, try reducing carbohydrate portions at meal times and swap or reduce your carbohydrate food for either protein and/or fibrous vegetables:

- Try adding in some lean protein such as eggs, lean bacon, quorn, tofu or yoghurt.
- Add in extra vegetables; make sure half of your meal plate is covered by vegetables or salad.
- Make sure only 1/4 of your plate is covered by carbohydrates.
- Add in a small handful of nuts or seeds to sauces, soups or cereals.
- Try higher protein, lower sugar options in sauces, soups or yoghurts.

## Useful resources and websites

<https://www.diabetes.org.uk/>

<https://www.diabetes.org.uk/guide-to-diabetes/recipes>

<https://www.nhs.uk/conditions/gestational-diabetes/>

<https://www.bda.uk.com/resource/pregnancy-diet.html>

<http://www.glycemicindex.com/>

<https://www.tommys.org/pregnancy-information/pregnancy-complications/gestational-diabetes?>

<https://www.carbsandcals.com/books/gestational-diabetes>

## Nutrition and Dietetics Department

Clinic 5, King's Treatment Centre

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### Further sources of information

**NHS Choices:** [www.nhs.uk/conditions](http://www.nhs.uk/conditions) **Our website:** [www.sfh-tr.nhs.uk](http://www.sfh-tr.nhs.uk)

### Patient Experience Team (PET)

PET is available to help with any of your compliments, concerns or complaints, and will ensure a prompt and efficient service.

If you would like this information in an alternative format, for example large print or easy read, or if you need help with communicating with us, for example because you use British Sign Language, please let us know. You can call the Patient Experience Team on 01623 672222 or email [sfh-tr.PET@nhs.net](mailto:sfh-tr.PET@nhs.net).

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