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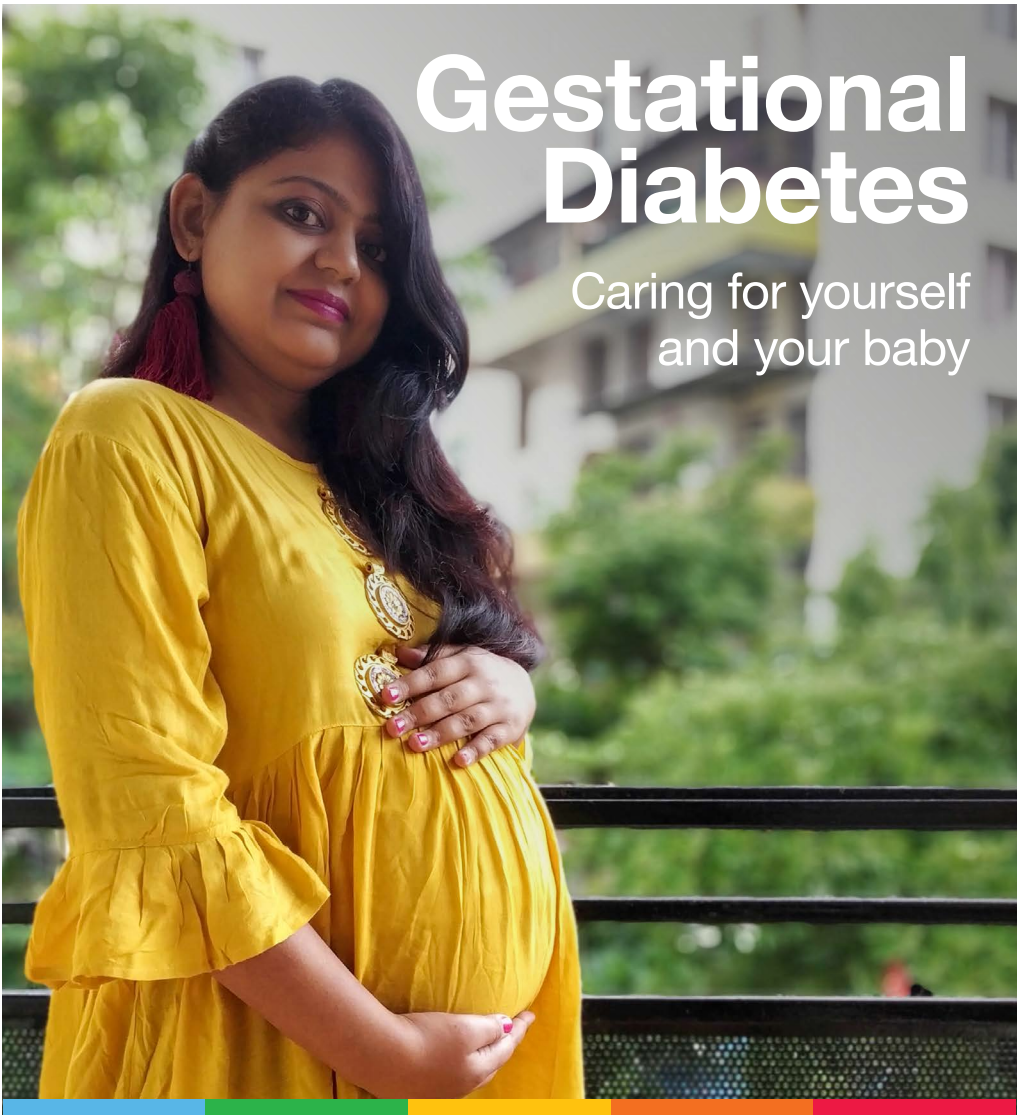

Gestational Diabetes

Caring for yourself and your baby

Gestational Diabetes - Caring for yourself and your baby

Bengali

English version (culturally modified)

diabetes australia

The NDSS is administered by Diabetes Australia

Contents

If receiving information about pregnancy or gestational diabetes raises personal concerns for you or causes you any distress, you can opt out from receiving further communications by visiting our website at **ndss.com.au/gdm-update** or calling the NDSS Helpline on **1800 637 700**. If you need support, ask your GP or local hospital maternity service about support services available in your area.

Disclaimer:
This information is intended as a guide only. It should not replace individual medical advice. If you have any concerns about your health, or further questions, should raise them with your doctor.

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Gestational Diabetes

Caring for yourself and your baby

In Australia, out of every seven pregnant women, at least one will develop gestational diabetes — you are not alone!

Gestational diabetes is a form of diabetes that occurs during pregnancy. This usually develops around the 24th to 28th week of pregnancy. For most women, diabetes goes away after the baby is born.

Finding out you have gestational diabetes may come as a shock, and you may be worried about how this will affect your pregnancy and your baby. While there is an increased risk of complications during pregnancy and birth, the good news is that the risks of health problems for mother and baby are reduced if gestational diabetes is well-managed.

This booklet aims to give you information about gestational diabetes, how to look after it and where to get information and support to help you manage gestational diabetes. It does not take the place of the valuable advice you will receive from your diabetes health professionals.

What is gestational diabetes?

Diabetes is a condition where there is too much glucose (sugar) in the bloodstream.

Glucose is an important source of energy for your body. It comes from carbohydrate foods that you eat, such as bread, pasta, rice, cereals, fruits, starchy vegetables, milk and yoghurt. Your body breaks down carbohydrates into glucose, which then enters your bloodstream.

Insulin is needed to allow glucose from the bloodstream to enter the body cells and be used for energy. Insulin is a hormone made in the body by your pancreas.

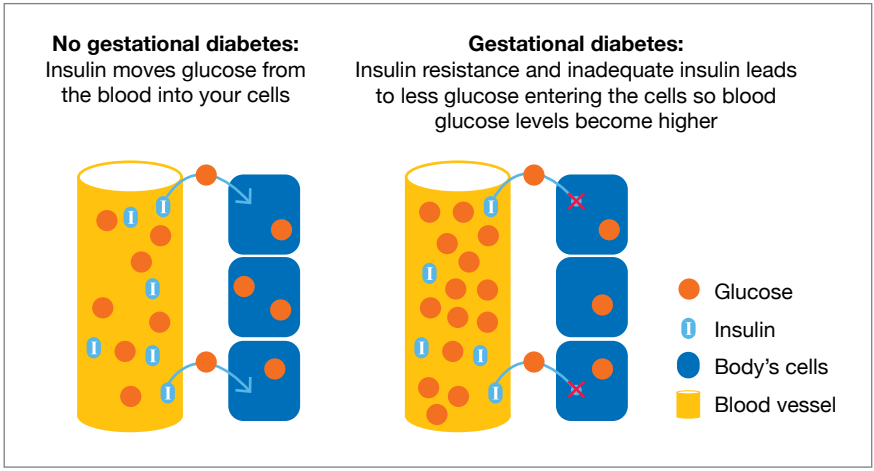
During pregnancy, some of the hormones produced by the placenta (which provides nutrition for your growing baby), reduce the action of the mother's insulin. This is called insulin resistance.

When insulin resistance occurs, the pancreas then needs to produce extra insulin to keep blood glucose levels in the normal range. If the pancreas is unable to produce enough insulin, blood glucose levels rise and gestational diabetes develops.

Gestational diabetes will not lead to your baby being born with diabetes.




Glucose and insulin changes in gestational diabetes



No gestational diabetes: Insulin moves glucose from the blood into your cells.

Gestational diabetes: Insulin resistance and inadequate insulin lead to less glucose entering the cells so blood glucose levels become higher.

When the baby is born, insulin requirements fall, blood glucose levels return to the normal range (for a non-pregnant woman) and diabetes usually disappears.

Who is at increased risk of gestational diabetes?

Women with an increased risk of gestational diabetes include those who:

- have had gestational diabetes in a previous pregnancy
- are older, especially over 40 years of age
- are from an Aboriginal and Torres Strait Islander background
- are from a Melanesian, Polynesian, Indian subcontinent, Middle Eastern or Asian background
- have had elevated blood glucose levels in the past
- have a family history of type 2 diabetes or a first-degree relative (mother or sister) who has had gestational diabetes
- are above the healthy weight range
- have polycystic ovary syndrome
- have gained weight too rapidly in the first half of pregnancy
- have had a large baby (weighing more than 4,500g) or complications in a previous pregnancy
- are taking some types of antipsychotic or steroid medications.

Some women without known risk factors will also develop gestational diabetes.

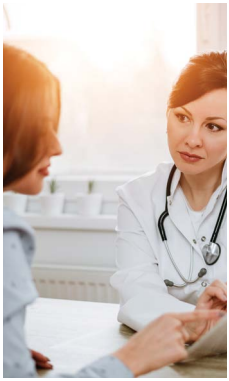
How is gestational diabetes diagnosed?

All women should be tested for gestational diabetes during pregnancy. This usually occurs between 24 and 28 weeks of pregnancy, although some women may be advised to be tested earlier.

An oral glucose tolerance test (OGTT) is used to check how your body responds to a glucose load. After fasting (not eating) for 8–12 hours, a blood sample is taken. You then have a drink containing 75g of glucose, and blood samples are taken one and two hours later.

If your blood glucose level is above the normal range at your fasting, one or two-hour test, you have gestational diabetes.

Some women may have only mildly elevated blood glucose levels at diagnosis, while other women have much higher levels and may need more intensive management and closer monitoring during pregnancy. Your health professionals will discuss your results and work with you to develop a plan to help manage your gestational diabetes.



Why does gestational diabetes need to be treated?

If blood glucose levels are high during pregnancy, excess glucose passes through the placenta to the baby, who then makes extra insulin.

This can make the baby grow too big, which can cause problems during labour and increase the risk of early delivery or the need for a caesarean section.

After the birth, the baby may have a greater risk of low blood glucose levels (hypoglycaemia). This is because the baby is no longer receiving extra glucose from their mother, but they continue to make more insulin than a baby usually would, causing their blood glucose levels to drop.

Women with gestational diabetes are also at greater risk of developing high blood pressure and pre-eclampsia (high blood pressure, protein in the urine and fluid retention or swelling) during pregnancy.

Well-managed gestational diabetes reduces the risk of these health problems for mother and baby. Your doctor and a team of diabetes health professionals can work with you to help keep your blood glucose levels within the target range to provide the best outcome for both you and your baby.

Most women with gestational diabetes will have a healthy pregnancy and a healthy baby.

Who can help you with gestational diabetes?

When you are diagnosed with gestational diabetes, there are health professionals who can help you manage this condition.

Your diabetes health care team may vary, depending on where you live or where you go for your pregnancy care and how your gestational diabetes is managed. This team may include:

- an endocrinologist – a doctor who specialises in diabetes
- a credentialled diabetes educator or a diabetes nurse practitioner – a specialist nurse or midwife who will help you and your family learn how to monitor and manage your blood glucose levels
- an accredited practising dietitian – who will help you with a healthy eating plan for your pregnancy
- your general practitioner (GP).

Your team of diabetes health professionals will work closely with your pregnancy team that may include:

- an obstetrician – a doctor who specialises in pregnancy and birth
- a midwife – who will provide support, care and advice during pregnancy, labour and after your baby is born
- a physiotherapist or accredited exercise physiologist – who may help you and your partner prepare for the birth process and advise on exercise during and after pregnancy.

Emotional health

Being diagnosed with gestational diabetes may come as a shock. Your first reactions may be disbelief, sadness, anger or self-blame. At this time, it is common to feel a mixture of emotions.

You may feel uncertain or concerned about how gestational diabetes will affect the health of your baby. You may feel overwhelmed by the extra appointments, all the information you receive and new skills needed to manage your gestational diabetes. Some women also feel anxious about their blood glucose levels.

Getting the right information and support you need to manage gestational diabetes can help. There are many different risk factors for gestational diabetes, so it's important to know that getting gestational diabetes is not your fault. Remember too, that with well-managed gestational diabetes, most women will go on to have a healthy pregnancy and baby.

You don't have to go through this alone. Let your partner, family and friends know how you feel so they can support you. Let them know to what extent you want them to be involved in managing your gestational diabetes and invite them to share their feelings too. Your health professionals are also there to support you.

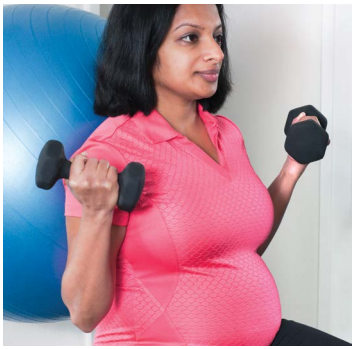
If you are having problems coping with the diagnosis of gestational diabetes or feeling anxious, worried or overwhelmed, your health professionals can advise you about support services available to you locally.

How is gestational diabetes managed?

You can manage gestational diabetes by:

- following a healthy eating plan
- doing regular physical activity
- monitoring blood glucose levels, and
- taking medication (if needed).

Managing gestational diabetes will help keep blood glucose levels within the target range for a healthy pregnancy. Eating well and being active will also help you to manage your pregnancy weight gain.



Healthy eating

When you have gestational diabetes, following a healthy eating plan can help to keep your blood glucose levels within the target range, provide nutrition for you and your growing baby and achieve appropriate weight changes during your pregnancy.

Healthy eating for gestational diabetes includes:

- eating 3 moderate sized meals and 2–3 snacks, spread out over the day
- choosing the right type and amount of carbohydrate foods at each meal and snack
- choosing foods that are low in saturated fat
- making high-fibre food choices
- eating a variety of foods that provide the nutrients you need during pregnancy

Nutrients required in higher amounts for pregnancy include iron (found in red meat, chicken, fish, legumes), folate (found in dark green leafy vegetables) and iodine (found in fish, bread, dairy foods).

Your dietitian can advise you on how to get the nutrition you need for you and your baby, while helping you to make healthy food choices that will help you manage your blood glucose levels.

Carbohydrates

Carbohydrate foods are broken down into glucose and used by the body for energy. They are very important for you and your baby.

Carbohydrate foods include:

- rice
- breads: chapatti, roti, sliced bread, naan, Lebanese bread
- legumes/pulses: such as lentils, chickpeas and red kidney beans
- flour (atta): whole wheat, chickpea, barley, buckwheat, pearl millet, finger millet, sorghum, corn/maize
- pasta, noodles, couscous, semolina, polenta, oats, quinoa, barley, cracked/broken wheat, buckwheat
- breakfast cereals
- starchy vegetables: such as potato, corn, sweet potato
- fruits
- milk and yoghurt (curd)

To manage your blood glucose levels, you need to eat the right **amount** and **type** of carbohydrate foods.

Amount of carbohydrate

Spreading your carbohydrate foods over 3 meals and 2-3 snacks each day can help manage your blood glucose levels. Large amounts of carbohydrate foods at any one meal or snack can cause blood glucose levels to rise too high. Your dietitian can advise you on the amounts of carbohydrate that are right for you.

In some women, blood glucose levels continue to be high, even with healthy eating and regular physical activity. If this happens to you, make an appointment with your diabetes health professionals, including your dietitian, to see if any food changes may help. It is important not to cut out carbohydrates as the baby requires carbohydrate as its main energy source. Some women may need medication, usually insulin injections, to manage blood glucose levels.

Type of carbohydrate

Carbohydrates break down into glucose at different rates. The glycemic index (GI) tells us how slowly or quickly carbohydrate foods affect blood glucose levels.

High-GI carbohydrate foods break down into glucose quickly, which means a higher and faster rise in blood glucose levels after eating.

Low-GI carbohydrate foods break down into glucose slowly. They result in a smaller and slower rise in blood glucose levels after eating.

Foods with a lower GI are a better choice when trying to manage blood glucose level/s. The best carbohydrate food choices are those that are high in fibre and have a lower GI.

Lower GI carbohydrates choices include:

Rice – basmati rice (white/brown) or SunRice® Low GI rice (white/brown)

Grains – cracked/broken wheat, traditional oats, barley, semolina, buckwheat, quinoa

Breads – chapatti or roti made with lower GI atta: try multigrain flour, or mix whole wheat flour (atta) with barley, buckwheat, pearl millet, chick pea or maize flours; dense wholegrain/seeded sliced breads, raisin bread, mixed grain wraps

Note: Limit naan, kulcha and bakarkhani as these are higher GI choices, made from white 'all purpose' flour (maida)

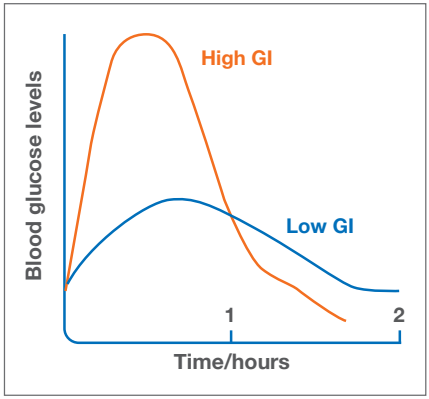
Pasta – most fresh and dried pasta, cooked 'al dente' (not overcooked)

Noodles – vermicelli, hokkien, buckwheat, udon, soba, or fresh rice noodles

Breakfast Cereals – traditional or steel-cut oats, natural muesli

Legumes (pulses) – all types, including lentils, chickpeas, red kidney beans

Fruit – most fresh fruit, and canned fruit in natural juice



Acknowledgement: glycemicindex.com

Starchy Vegetables – sweet potato, corn, taro and cassava

Dairy and alternatives – milks, including buttermilk, yoghurt (curd), soy milk

When making low GI food choices, it is still important to consider the amount of carbohydrate you eat, as recommended by your dietitian.

Sugars and sweeteners

Sugars (including white, raw and brown sugar, molasses, jaggery, honey, glucose and syrups) are also carbohydrates, but they provide no nutritional benefit and can cause your blood glucose level to rise too high.

Limit added sugars and avoid foods and drinks that are high in sugar aand have little nutritional value, such as soft drinks, cordials, fruit juices, cakes, biscuits (including rusks, Digestives™), chocolates and lollies.

There are a range of alternative sweeteners available to replace sugar. While these are not necessary, you may still choose to use them to add sweetness without adding sugar. Small amounts of alternative sweeteners can be used during pregnancy. All of the sweeteners approved for use in Australia have been tested and deemed safe by Food Standards Australia New Zealand.

Fats

Use small amounts of healthy fats, such as canola, soya bean or olive oil, olive or canola spreads, unsalted nuts, seeds and avocado.

Limit the amount of saturated fat you eat by choosing lean meats, skinless chicken and low-fat dairy foods. Limit butter, ghee, cream, sour cream, coconut milk/cream and condensed milk. Limit breads that have large amounts of ghee added, such as paratha, and deep-fried breads, such as puri and bhatoora. Also limit deep-fried snacks, such as pakora, pitha, samocha/singara, chicken roll and potato fries.

Avoid takeaways and processed foods high in saturated fats such as cakes, pastries, packaged biscuits, savoury snacks, chocolates and processed meats. If eaten in large amounts, fats can cause extra weight gain, which can further increase insulin resistance.

Protein

Protein is important for the maintenance of your body and the growth of your baby. Protein can also help you feel full for longer. Protein foods include lean meat, fish, skinless chicken, eggs, soya chunks/ soya nuggets, tofu, and reduced fat cheese or cottage cheese. Milk, yoghurt and legumes/pulses (such as lentils, chickpeas and red kidney beans) are also important sources of protein (these foods also contain carbohydrate).

Eat plenty of vegetables

Eating plenty of vegetables is important for a healthy pregnancy. They are a good source of fibre, vitamins and minerals. Most vegetables are low in carbohydrate and will not affect your blood glucose levels (except for potato, taro, corn, sweet potato and cassava). Eat a variety of different coloured vegetables and salads, such as tomatoes, cucumber, capsicum, onions, cauliflower, zucchini, broccoli, okra, spinach, peas, cabbage, lettuce, green beans, eggplant, carrot, pumpkin and green leafy vegetables.

Talk to your dietitian about making healthy food choices for managing both your diabetes and general health during pregnancy.

Putting together a healthy meal

When putting together a healthy main meal:

- Fill half your plate with salad (home-prepared) or vegetables (not including potato, taro, corn, sweet potato)
- Choose a lower GI carbohydrate food such as basmati (white/brown), SunRice® Low GI rice (white/brown), chapatti or roti made with lower GI atta, wholegrain sliced bread, legumes (such as lentils, chickpeas, red kidney beans), corn, sweet potato or pasta.
- Add a moderate serve of lean protein food, such as lean meat, skinless chicken, fish/seafood, eggs or soya chunks/soya nuggets. Legumes/pulses are a good source of protein (these also contain carbohydrate, so refer to the sample meal ideas for suggested serve sizes).

Include healthy fats and oils as part of a balanced meal, such as such as olive or canola oil in cooking, or avocado in a salad.

Lower GI carbohydrate food such as:

- 1 cup cooked basmati rice OR
- ½ cup cooked basmati rice + 1 cup dahl OR
- 2-3 thin, small chapattis or roti* OR
- 2 slices wholegrain bread + 1 serve of fruit OR
- 1 cup cooked pasta or low GI noodles

Plenty of vegetables

Moderate serve of lean protein food

The sample meal ideas on the following pages provide suggested amounts of carbohydrate at each meal and snack. Your dietitian will advise you on the amount of carbohydrate to suit your individual needs.

* made with lower GI atta; approximately 15cm wide

Sample meal ideas

The following healthy meal ideas provide a starting point for planning meals and snacks to help you with managing gestational diabetes. The amounts shown here are the suggested serving sizes for one person and are a guide only.

To make sure you are eating the amounts that are right for you, ask your dietitian for advice based on your individual needs and food preferences.

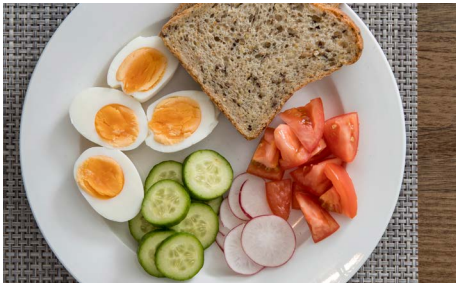
As the amount of carbohydrate in food products and recipes varies, checking your blood glucose levels after meals will help you adjust serve sizes to suit your individual needs.

Follow pregnancy food safety guidelines as advised by your health professionals when preparing meals and snacks; see page 20.

Breakfast ideas

Choose one of the following options:

- ½-1 cup cooked basmati rice (white/brown) + fish/lean meat/chicken curry + vegetable curry
- 1-1½ cups khichdi: instead of rice, try using broken wheat, oats or quinoa with the lentils, and include vegetables in the dish, such as carrots and spinach
- 2-3 thin, small (~15cm) chapatti or roti made using lower GI atta (see page 13) + fish/lean meat/chicken curry + salad
- 1-2 slices wholegrain bread + boiled egg or reduced fat cheese + salad + 1 cup reduced fat milk
- Porridge: 1 cup cooked traditional oats + reduced fat milk + 1 tablespoon natural or plain Greek yoghurt + ½ cup sliced strawberries



Meal ideas

Choose one of the following options for lunch, and then one for dinner:

- ○ 1 cup cooked basmati rice (white/brown) + fish/lean meat/chicken curry + steamed or stir-fried vegetables or salad
- ○ ½ cup cooked basmati rice (white/brown) + 1 cup dhal + vegetable curry (e.g. subji or shukto)
- ○ 2-3 thin, small (~15cm) chapatti or roti made using lower GI atta (see page 13) + soya chunks curry + vegetable curry (e.g. subji or shukto) or salad
- ○ 2-3 thin, small (15cm) chapatti or roti made using lower GI atta + fish/lean meat/chicken curry + steamed or stir-fried vegetables or salad
- ○ 1-2 small (~15cm) chapatti or roti made using lower GI atta + 1 cup dhal + salad
- ○ Sandwich: 2 slices multigrain bread + boiled egg/ reduced-fat cheese/tinned fish/freshly cooked chicken + salad + avocado + 1 serve of whole fresh fruit
- ○ 1 cup cooked pasta + lean meat/chicken cooked in a tomato-based sauce + steamed vegetables or salad

If you include potato or taro in your vegetable dishes, this increases the amount of carbohydrate, so you may need to reduce the serve of bread or rice with that meal. Checking your blood glucose levels will guide you.

Snack suggestions

Choose 1–2 of the following options for snacks such as morning tea, afternoon tea and supper (before-bed snack):

- ○ 1 serve whole fresh fruit (e.g. apple, orange, small banana or pear)
- ○ 2–3 small fruits (e.g. mandarins, plums)
- ○ 200g natural or plain Greek yoghurt topped with fresh berries or passionfruit
- ○ 100g tub fruit yoghurt
- ○ 1 cup reduced-fat milk or soy milk (with added calcium)
- ○ 1 cup unsweetened buttermilk (reduced fat yoghurt + water)
- ○ Small handful (30g) unsalted mixed nuts and seeds with 1 tablespoon sultanas or 6 dried apricot halves or 2-3 small dates
- ○ ½ cup oven-roasted chick peas with spices
- ○ 1 x 25g packet Happy Snack Company Roasted Chickpeas™
- ○ 1 cup lentil & vegetable soup

Food safety

Pregnant women are at greater risk of food poisoning and should prepare and store food carefully. This includes preparing raw and cooked foods separately, avoiding raw or undercooked meat/chicken/seafood and following food cooking and storage instructions. Ensure all salads (including fruit salad) are home-prepared, and fruits and vegetables are washed thoroughly. Cook and reheat food until steaming hot and keep cold foods refrigerated.

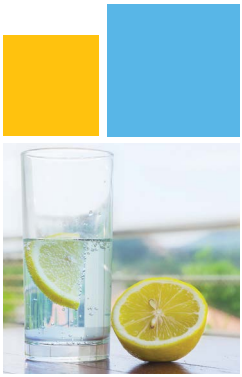
Protecting yourself from exposure to high-risk foods that can cause infections and harm your developing baby is also very important. Avoid foods that may contain listeria bacteria, such as soft cheeses, unpasteurised dairy products, pre-cooked cold chicken, soft serve ice cream, deli/sandwich meats, bean sprouts, rockmelon, pre-prepared salads and pâté. Avoid raw or undercooked eggs, as these may contain salmonella.

Certain types of fish, including shark/flake, swordfish and deep-sea perch, also need to be limited during pregnancy due to their high mercury content.

Seek advice from your dietitian and/or state health department on guidelines for food safety during pregnancy.

Drinks

Drinks such as cordial, juice and soft drinks are high in kilojoules and sugar and can cause your blood glucose levels to rise too high. Choose water, plain mineral water or soda water instead — try these flavoured with slices of fresh lemon or lime for something different. A small amount of tea and coffee can be included during pregnancy — ask your dietitian for more information.



The Australian guidelines recommend that women who are planning a pregnancy or pregnant should not drink alcohol. For women who are breastfeeding, not drinking alcohol is the safest option.

Pregnancy weight gain

It is usual to gain some weight during your pregnancy, as your baby grows. How much weight you should gain depends on your weight before you were pregnant.

Gaining too much weight during pregnancy can increase the risk of health problems such as high blood pressure, having a large baby and increased risk of birth complications, and a caesarean section. Extra weight gain can also make it more difficult to manage blood glucose levels and harder to return to your pre-pregnancy weight after delivery.

The table below shows the recommended weight gain targets for pregnancy depending on your pre-pregnancy weight range (calculated using body mass index, or BMI, by dividing your weight in kilograms by your height in metres squared).

BMI = pre-pregnancy weight (kg) ÷ (height (m) x height (m))

Pre-pregnancy BMI	Weight range	Pregnancy weight gain (kg)	Monthly weight gain 2nd and 3rd trimester (kg)
< 18.5	Underweight	12.5–18	2
18.5–24.9	Healthy weight	11.5–16	1.5
25–29.9	Overweight	7–11.5	1
> 30	Obese	5–9	1

These weight gain targets do not apply to women having a multiple pregnancy, and recommendations may vary for women from different cultural backgrounds.

Have your weight checked regularly throughout your pregnancy. Discuss your individual pregnancy weight gain targets with your health professional and talk to them if you feel you are gaining too much or not enough weight.

Physical activity

When you have gestational diabetes, it's recommended that you try and be active every day.

Physical activity can help you manage your blood glucose levels and pregnancy weight gain, as well as keep you fit to prepare for the birth of your baby. It also has other benefits, such as managing pregnancy symptoms like heartburn, constipation and lower back pain.

Many types of physical activity are suitable during pregnancy, but it's important to talk to your doctor before starting or continuing any form of physical activity while you are pregnant.

For women with gestational diabetes without any other medical or pregnancy complications, aim for 30 minutes of moderate physical activity on most days of the week. This can also be broken up into shorter periods of at least 10 minutes, three times a day.

'Moderate physical activity' means that while being active you will have a slight but noticeable increase in breathing and heart rate (but you should still be able to hold a conversation).

Moderate activities could include:

- swimming
- brisk walking
- aqua fitness classes
- stationary cycling
- prenatal exercise classes
- light to moderate resistance exercise.

Pelvic floor exercises during pregnancy can also be helpful for after the baby is born. As your pregnancy progresses, you may find that some activities are more suitable than others.

You can also increase your day-to-day activity by walking to the shops, playing with your children at the park or being active around the house.

Monitoring your daily activity by keeping an exercise diary or using a device such as an activity tracker can also encourage you to be active.

To exercise safely remember to:

- include a 5–10 minute warm up and cool down
- drink plenty of water during and after physical activity
- wear loose, light clothing to avoid overheating
- avoid exercise when you are hungry, unwell or have a high temperature
- STOP exercising and seek medical advice if you experience chest pain, dizziness, back or pelvic pain, calf pain or sudden swelling of ankles, hands or face, contractions or vaginal bleeding or a decrease in fetal movements.

During pregnancy, avoid activities that involve lying flat or increase the risk of falling, as well as contact or extreme sports.

Managing blood glucose levels

When you are active, your muscles use glucose for energy. This can help lower blood glucose levels and manage your gestational diabetes.

On days when you are less active, you may notice that your blood glucose levels will be higher, so a daily routine of physical activity can be helpful. Being active after meals (e.g. a short walk or housework) for at least 10–15 minutes can also assist with managing blood glucose levels.

Talk to your doctor or diabetes educator about the effects of exercise on your blood glucose levels, especially if you are taking insulin.

For women with gestational diabetes, moderate-intensity physical activity can help to manage blood glucose levels.

Monitoring your blood glucose levels

Blood glucose monitoring is an essential part of managing gestational diabetes.

Monitoring your own blood glucose levels will help you to:

- better understand the effect of food and physical activity on your blood glucose levels
- know when to seek advice from your health professionals
- develop confidence in managing your gestational diabetes.

A diabetes educator can show you how to check your blood glucose levels using a blood glucose meter and advise you on target levels for pregnancy.

The most common times to check blood glucose levels are when you wake up in the morning (fasting) and one or two hours after each main meal. You may also be advised to check your blood glucose levels at other times.

Blood glucose targets

The following blood glucose targets are often recommended in Australia:

- 5.0mmol/L or less before breakfast
- 7.4mmol/L or less if you are testing one hour after the start of your meal OR
- 6.7mmol/L or less if you are testing 2 hours after the start of your meal.

These are a general guide only and your doctor or diabetes educator will advise you on individual blood glucose targets.

Write your individual blood glucose targets in your record book/sheet.

You will also be asked to keep a record of your blood glucose readings so that your diabetes health professionals can help you look for any patterns in your blood glucose levels. They can also advise you on what to do if your blood glucose levels are outside the target range.

Your diabetes educator can help you choose a suitable blood glucose meter. They can also assist with further information on blood glucose monitoring technique, access to supplies and disposal of sharps (e.g. lancets, insulin pen needles).

There are other forms of glucose monitoring (such as continuous glucose monitoring or flash glucose monitoring). These may be useful but do not replace (finger-prick) blood glucose self-monitoring.

Your doctor or diabetes educator will advise you on individual blood glucose targets.

Medication

If your blood glucose levels cannot be managed by healthy eating and physical activity alone, your doctor may suggest medication.

Insulin

Insulin treatment may be needed to bring blood glucose levels into the target range.

Insulin is given by injection using an insulin pen device. This device can deliver the insulin at a push of a button. If you require insulin, your diabetes educator or doctor will teach you how to use the insulin device and where to inject the insulin. The injected insulin will help to lower your blood glucose level to within a range that is best for you, as well as your baby's growth and development. The insulin does not cross the placenta or affect your baby.

Your diabetes health professional will advise you of the appropriate starting dose of insulin. It is common for the insulin dose to be increased regularly throughout the second half of pregnancy (due to placental hormones causing insulin resistance). This continues until close to your delivery date.

Your diabetes team will regularly review your blood glucose levels and discuss with you the correct insulin doses to take.

Many women have worries or feel anxious about starting insulin therapy. It can take time to get used to a new treatment but your health professional is there to help you. Some women worry about giving themselves injections, but keep in mind that these days, insulin-injecting devices are relatively easy to use and have extremely fine needles. The injection of insulin will not harm your baby.

Metformin

Most diabetes tablets are not suitable for use during pregnancy, but a medication called metformin is sometimes used. Your doctor or diabetes educator will discuss whether this medication is suitable for you. If your doctor recommends metformin they will advise you of a starting dose and when to take this medication. You will need to continue to monitor your blood glucose levels and your diabetes health professionals will continue to review your doses.

Common feelings about starting medication

Some women worry that starting medication means they haven't looked after their gestational diabetes well enough or that the diabetes is getting worse. Needing medication doesn't mean that you have failed in any way, it just means that your body needs some extra help to keep blood glucose levels in the target range. Remember too, that every woman's experience with gestational diabetes and how it is managed will be different.

Every woman's experience with gestational diabetes and how it is managed will be different.

Diabetes supplies

The National Diabetes Services Scheme (NDSS) gives you access to subsidised products to help you manage gestational diabetes. These products include:

- subsidised blood glucose testing strips
- free insulin syringes and pen needles (if you need insulin to manage gestational diabetes)

You must be registered with the NDSS to buy subsidised products through the NDSS. Once you have your NDSS registration number or card, you can get all your NDSS products from an NDSS Access Point. Most community pharmacies are NDSS Access Points. Your diabetes health professionals can help with information about your closest Access Point or you can call the NDSS Helpline on **1800 637 700**. Medications (including insulin) are not available through the NDSS and require a prescription.

You can get a further discount on some NDSS products if you hold one of the following concession cards:

- Health Care card
- Pensioner concession card
- Safety Net card
- Department of Veterans' Affairs card

Hypoglycaemia (hypos)

If you are taking insulin to manage your gestational diabetes, it is possible for your blood glucose levels to drop too low (although this is not common). A low blood glucose level is called hypoglycaemia or a 'hypo'.

This occurs when your blood glucose levels fall below 4mmol/L. A hypo can be caused by:

- delaying or missing a meal
- not eating enough carbohydrate
- being more active than usual
- too much insulin.

Symptoms of a hypo may include nausea, weakness, trembling or shaking, sweating and dizziness. If you are taking insulin to manage gestational diabetes and feel any of these symptoms, check your blood glucose level. If it is less than 4mmol/L, treat the hypo as described below. If you can't check your blood glucose level, treat these symptoms as if you are having a hypo.

Treat hypos quickly to stop your blood glucose level from falling even lower. To treat a hypo, have some easily absorbed carbohydrate, for example:

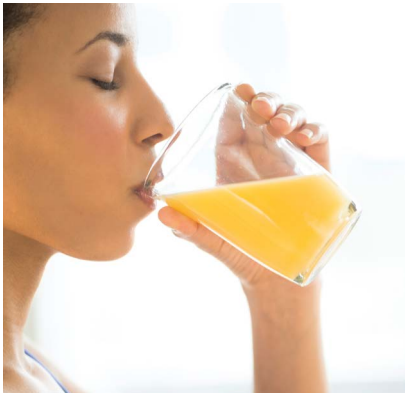
- Glucose gel or glucose tablets equal to 15 grams of carbohydrate OR
- 6–7 regular size jellybeans OR
- 3 teaspoons of sugar or honey OR
- ½ a glass (125ml) of fruit juice OR
- ½ a can (150ml) of regular soft drink (not 'diet').

After treating a hypo, wait 10–15 minutes then recheck your blood glucose levels to make sure they are above 4mmol/L. If symptoms continue, or if your blood glucose level is still below 4mmol/L, repeat the treatment. If your next meal is more than 20 minutes away, you will need to have some extra carbohydrate food such as a piece of fruit, glass of milk or tub of yoghurt.

You also need to remember to check that your blood glucose levels are above 5mmol/L before driving. Discuss driving with your diabetes health professional. For more information, refer to the NDSS booklet *Diabetes and Driving* available from **ndss.com.au**.

Discuss managing hypos with your diabetes health professionals.

Hypos have not been shown to cause harm to the baby. Hypos can, however, be a risk to the safety of the mother, so treat hypos without delay.



The birth

Your diabetes and pregnancy health professionals will continue to monitor you and your baby throughout your pregnancy.

This will include regular checks of your blood pressure and ultrasounds to check your baby's growth and well-being. Extra blood tests will also be organised as needed. Most women with gestational diabetes will be able to deliver close to their due date and most are able to have a vaginal delivery.

If the baby grows too large or there are any other concerns about the pregnancy, the health professionals looking after your pregnancy may suggest 'inducing' the birth one or two weeks early. If an earlier birth is required, labour is usually induced after using a medication that prepares the cervix for delivery.

Birth plan

You can discuss your birth plan with your doctor or midwife. This is a good way to let them know what kind of care you would like in labour, birth and afterwards (if possible). It's a good idea to discuss your birth plan from about 36 weeks onwards, remembering that this may need to be adjusted depending on how your pregnancy is progressing.

Caesarean section

As with all pregnant women, there is a possibility that you may need a caesarean birth. Sometimes a caesarean may be required if the baby is too large or if there are other obstetric concerns such as low placenta, breech presentation or previous caesarean delivery. It's a good idea to discuss caesarean births with your health professionals so that if the need arises, you are well-prepared.

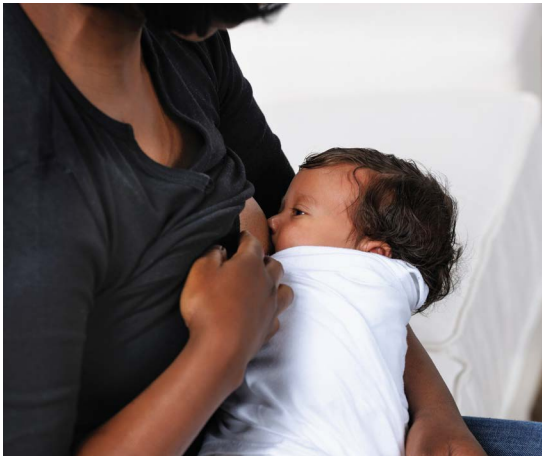
Insulin infusion (drip)

To manage blood glucose levels during labour or caesarean delivery you may need insulin by injection or by infusion (drip). This is more likely in women who have needed treatment with high doses of insulin during the pregnancy. Some women may also need a glucose drip during labour, although this is uncommon.

After the birth

After the birth, a paediatrician (a doctor who looks after babies and children), your obstetrician or a midwife will examine your baby. Your baby will be monitored carefully for the first 24–48 hours (heart rate, colour, breathing, blood glucose levels).

The midwives will perform blood glucose tests (using heel pricks) on your baby to make sure their blood glucose levels are not too low (that is, less than 2.6mmol/L). If your baby's blood glucose level is low, your baby may need to have supplementary feeds or some glucose. Talk to your midwife about using your breast milk for supplementary feeding.



Benefits of breastfeeding

Breastfeeding has many benefits, both for you and your baby. These include benefits for your baby's immune system, growth and development, and it can help with bonding between you and your baby. Breastfeeding has also been shown to have long-term health benefits for mother and baby, including reducing the risk of future type 2 diabetes.

You will be encouraged to have skin-to-skin contact with your baby and breastfeed as soon as possible after delivery. Breastfeeding at least every three hours during the first few days will help maintain your baby's blood glucose levels. Your midwife or lactation consultant can support you to establish breastfeeding and help with strategies for successful breastfeeding.

Breastfeeding information and support

For breastfeeding information and support, contact the National Breastfeeding Helpline on **1800 686 268**. Support is available 24 hours a day, 7 days a week.

Local breastfeeding support networks are also available in hospitals and in the local community. Ask your midwife, lactation consultant or child and family health nurse for more information.

The practice of expressing and storing breast milk during late pregnancy is becoming more common among women with gestational diabetes, with the hope of having some colostrum (the first milk) to offer if baby has low blood glucose levels after the birth. It is very useful to learn the skill of hand expressing, so that you are prepared for when baby arrives. However, the practice of antenatal expressing may not be suitable for all women, so it's recommended that you ask your health care professionals for advice if you are considering expressing breastmilk during late pregnancy.

Medication after the birth

Medications used to treat gestational diabetes (insulin or metformin) will usually be stopped after your baby is born. Your health care team will advise you how often to monitor your blood glucose to see whether the levels have returned to normal (generally 4 to 8 mmol/L).

6–12 weeks after the birth

Most women will no longer have diabetes after the baby is born. However, some women will continue to have high blood glucose levels after delivery. An oral glucose tolerance test (OGTT) is very important to check that blood glucose levels have returned to normal. You will be advised to have this test 6–12 weeks after your baby is born (or as soon as possible after this time).

Remember to remind your doctor (general practitioner) that you have had gestational diabetes.

Future health

Once you have had gestational diabetes, you are at a higher risk of developing type 2 diabetes in the future. If you have another pregnancy, there is also an increased risk of developing gestational diabetes again.

Eating well and being active can reduce your risk of developing type 2 diabetes. Depending on your risk factors and the results of your oral glucose tolerance test (done after you give birth), you will also need to be checked for type 2 diabetes again every one to three years.

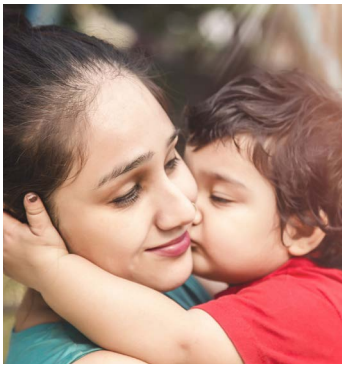
You can reduce your risk of future diabetes by:

- being in the healthy weight range
- making healthy food choices
- being physically active every day.

Babies born to women who have had gestational diabetes also have an increased risk of childhood obesity and type 2 diabetes later in life. It is recommended that the whole family eat well and stay active to reduce this risk.

After the birth of your baby, you will be sent another booklet, *Life after gestational diabetes*, as well as regular reminders for follow-up type 2 diabetes checks and healthy lifestyle information.

Approximately half of all women who have had gestational diabetes will develop type 2 diabetes or prediabetes within 10–20 years.



National Diabetes Services Scheme

What is the NDSS?

The NDSS supports people with diabetes by giving them access to reliable and affordable services and products.

The NDSS is an initiative of the Australian Government. Diabetes Australia has administered the NDSS on behalf of the Australian Government since it's inception in 1987. Registration with the NDSS is free and open to all Australians who have been diagnosed with diabetes and have a valid Medicare card.

The NDSS provides a range of services and support to help you manage your diabetes. These include the NDSS Helpline on **1800 637 700** for advice on diabetes management, subsidised NDSS products, and information, support and education to help you learn more about managing your diabetes.

Where can I access NDSS services and products?

You can access NDSS services and support by calling the NDSS Helpline on **1800 637 700**. The NDSS Helpline can also put you in contact with your NDSS Agent. NDSS Agents are the diabetes organisations in each state and territory, and the names and contact details of all Agents are provided at the end of this book.

You can access subsidised NDSS products in all states and territories through NDSS Access Points, which are usually community pharmacies. You can find your closest Access Point by calling the NDSS Helpline on **1800 637 700**.

Services and support

Our services and support include access to:

- information about services, diabetes self-management advice, and ordering NDSS products
- programs and activities for people with diabetes, such as healthy eating programs and physical activity programs
- group support programs
- fact sheets, brochures and other resources about diabetes
- diabetes health professionals.

National Gestational Diabetes Register

The National Gestational Diabetes Register was established within the NDSS to help women who have had gestational diabetes manage their health during pregnancy and into the future. When you first register with the NDSS with gestational diabetes you are automatically included on the Register. As part of the Register, both and your doctor will be sent reminders about having regular type 2 diabetes checks after your baby is born.

If you would like more information about the National Gestational Diabetes Register, go to **ndss.com.au** or call the NDSS Helpline on **1800 637 700**.

Translating and Interpreter Service

If you need an interpreter to talk with the NDSS Helpline, call the Translating and Interpreting Service (TIS) on **131 450**, state your language. Wait to be connected to an interpreter, then ask for **1800 637 700**.

NDSS agent contact details

New South Wales and the Australian Capital Territory
Diabetes NSW & ACT
diabetesnsw.com.au

Northern Territory
Healthy Living NT
healthylivingnt.org.au

Queensland
Diabetes Queensland
diabetesqld.org.au

South Australia
Diabetes SA
diabetessa.com.au

Tasmania
Diabetes Tasmania
diabetestas.org.au

Victoria
Diabetes Victoria
diabetesvic.org.au

Western Australia
Diabetes WA
diabeteswa.com.au

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For further information regarding this publication, its development or availability call the NDSS Helpline on **1800 637 700** or email **info@ndss.com.au**

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