Nutrition for Diabetes in Pregnancy
This resource has been developed for use with pregnant women who have diabetes (Type 2 and/or Gestational Diabetes Mellitus).

The resource is in 6 sections, some of which will not be relevant to all clients. It is recommended that you tailor the information you provide to your client by only printing or using those pages and resources that are relevant.

There are 6 sections:

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What is diabetes in pregnancy?

Everyone has some glucose (sugar) in their blood. Diabetes in pregnancy is having too much glucose (sugar) in your blood when you are pregnant.

Some women already have diabetes before they get pregnant. When women already know they have diabetes, they should get their blood glucose right before getting pregnant.

Other women only get diabetes during pregnancy. This is called Gestational Diabetes. Gestational Diabetes goes away for most women when the baby is born.

Some women are more likely to get Gestational Diabetes than others:

- older than 35
- they had Gestational Diabetes before or someone in their family did
- they are overweight
- they have a history of polycystic ovary syndrome
- Aboriginal or Torres Strait Islander women, Asian, Indian, South Pacific, Maori, Middle Eastern and African women.
What is diabetes in pregnancy?

Women who have Gestational Diabetes don’t feel any different. They won’t know that they have it until they do a test. The usual test is an Oral Glucose Tolerance Test (OGTT).

This involves having a blood test then drinking a sweet drink before some more blood is taken after 1 hour and 2 hours.

Most women are tested at 24 – 28 weeks. Women who are more likely to get Gestational Diabetes are tested earlier. Your midwife will let you know.

If your blood glucose reading is higher than the numbers below, then you have Gestational Diabetes.

<table>
<thead>
<tr>
<th>Time</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fasting</td>
<td>≥ 5.1</td>
</tr>
<tr>
<td>1 hr</td>
<td>10.0</td>
</tr>
<tr>
<td>2 hr</td>
<td>≥ 8.5</td>
</tr>
</tbody>
</table>
Why do we worry about diabetes in pregnancy?

When you have high blood glucose (sugar) levels, it can be serious and may mean:

**Baby:**
- can grow too big but not strong
- has a problem coming out and might get stuck
- might not develop as well as other babies
- might grow up to have Type 2 Diabetes.

**Mum:**
- birth might become difficult
- may need a caesarean
- may end up with kidney problems
- might get high blood pressure
- might end up with Type 2 Diabetes in a few years
- might need to stay in hospital longer if mum or baby is sick.
What happens when you eat?

Food and drink goes to your stomach. It gets broken down into glucose (sugar). The glucose goes into your blood. This happens if you are healthy or you have diabetes.

Insulin helps move glucose out of your blood and into your muscles to give you energy and help your baby grow.
What happens when you have diabetes in pregnancy?

Pregnancy hormones made by the placenta help baby grow but they can stop your insulin from working properly. This can make blood glucose levels go too high.

Your body has to make lots more insulin when you are pregnant. If you can’t make enough insulin it means more glucose stays in your blood.
What should I do?

There are some things that you can do to help manage your blood glucose (sugar) levels:

- Eating healthy
- Doing exercise
- Taking medication (if needed)
- Checking blood glucose regularly
If you look after yourself in pregnancy, you can keep you and your baby strong...
Carbohydrate Foods

The types of foods that get broken down inside our bodies into glucose are called carbohydrates. Some of them are also called starchy foods. Carbohydrate foods are important for our body because they give our body energy and help baby grow. Not all carbohydrate foods taste sweet.

Starchy foods

Fruits

Glucose = sugar

Milk and dairy

Sweet foods, drinks and take aways

Many of these carbohydrate foods have added sugar and should be avoided.
Low Carbohydrate Foods

Meat and alternatives
These foods don’t put glucose (sugar) into your blood.

- Protein – to help baby grow
- Iron – for strong blood
- Iodine – help baby’s brain grow.

Low starch vegetables

These foods give you and your baby:
- Fibre – to help with constipation
- Folate – to help your baby’s brain grow
- Other vitamins to help you stay healthy.

Supplements

When you are pregnant, your health professional might ask you to take tablets that give you iron, folate and iodine to make sure you get enough. These are called supplements.

Folate and iodine is needed for baby’s brain and iron to make their blood strong.
Meal ideas

What to eat for breakfast:

- 2 pieces of bread and 1 boiled egg
- Small tub of yoghurt and a piece of fruit

When choosing breakfast cereals, try not to eat these as they are high in sugar:

- Family Pack
- Milky Bites
- Super Grain

What to eat for lunch:

- A salad sandwich
- A plate of stew (with veg + meat) with pasta
- 2 pieces of bread with tomato and a slice of low fat cheese
- 4 dry crackers with tinned fish
Meal ideas

What should my (dinner) plate look like?

- Two handfuls of vegetables
- One fist sized serve of carbohydrate
- One palm sized serve of meat
Healthy snack ideas

When choosing snack foods, have one of these choices:

- A small can of corn
- A palm sized serving of nuts
**Healthy drinks**
- Water and plain milk are the best.

**Drinks to avoid**
- Pregnant or breastfeeding women should not drink alcohol.
- Do not drink more than 2 cups of coffee or tea per day.

**High sugar drinks**
- Drinks like cordial, soft drinks, fruit juice, flavoured milk and sports drinks have too much sugar.

Artificial sweeteners – small amounts of artificial sweeteners are safe when pregnant.
Meal plan
Eat small, regular meals.
Eating this way will help your blood glucose levels stay normal.

Pregnant women should eat the following each day:
- 2 serves of fruit
- 8 1/2 serves of breads and cereals
- 5 serves of vegetables
- 3 1/2 serves of meat
- 2 1/2 serves of dairy

Don’t eat too much at one time.
Eating lots of carbohydrate food at once can make your blood glucose levels go too high.
Food safety

Listeria is a bacteria that can harm your baby. Avoid foods that are more likely to have listeria, such as:

- cold meats from the shops, like salami and cold chicken
- pre-packaged salads
- raw seafood like oysters, fish or sushi
- soft cheese like brie and camembert
- soft serve ice-cream and raw dairy products.

Being careful with food hygiene will also reduce your chance of getting listeria infection.

Make sure you store leftover food in the fridge. If you don’t have a fridge, eat food straight away and throw away any leftovers. Wash your hands before touching food.

Mercury can also harm your baby

Fish is important for baby’s brain and eyes. Have fish sometimes but not every day. Make sure fish is cooked properly before you eat it.

Large fish can contain mercury which is harmful to the baby. It is recommended that pregnant women eat large fish like shark only one or two times per month.

Wash your hands before touching food.
Keep active – stay strong

Pregnant women should be physically active as part of a healthy lifestyle during their pregnancy.

Being physically active helps to make the insulin in your body work better. It can also make you feel happier.

Hunting, fishing, swimming and collecting bush tucker, gardening and housework can help blood glucose (sugar) levels stay down.

Remember to drink plenty of water when being active.
When eating healthy and being active is not able to keep your blood glucose (sugar) levels normal, your doctor might prescribe medicine called metformin or insulin. It also lowers the amount of glucose in your blood. If your doctor starts you on any medication it is important to take it every day to keep your blood glucose levels normal.

**Metformin** is a tablet that is safe for baby and helps your body’s insulin work better.

**Insulin** is a liquid that has to be injected into your body. You can’t swallow insulin.

It is important to know if you have to eat food before you inject insulin. If you are unsure, ask one of the clinic staff.

Diabetes medications can have some side effects like diarrhea, bloating (swelling up with water), nausea (feeling like you want to vomit), sore belly or glucose levels going too low. If the side effects worry you, talk to the doctor.
When you have Diabetes in pregnancy, you will be given a blood glucose monitor so you can regularly check your blood glucose levels. A nurse will show you how to use the monitor. This checks how well your blood glucose levels are going over a longer term.

You will need to check your blood:
- when you first get up before breakfast
- 2 hours after starting breakfast
- 2 hours after starting lunch
- 2 hours after starting dinner.

You need to aim for a blood glucose level of:
- when you first get up before breakfast — 5.0mmol/L or less
- 2 hours after meal — 6.7mmol/L or less.

There is another test that a doctor or nurse might do called a HbA1C. This checks how well your blood glucose levels are going in between your monitoring. This test will be done at the clinic.
How can I stop my blood glucose (sugar) level going too high?

- Don’t eat too much carbohydrate in one meal
- Spread your carbohydrates out over the day
- Include meats and non-starchy vegetables in your meals
- Don’t skip main meals
- Have a snack in between each main meal
- Avoid deep fried and fatty takeaway food like chips, fried chicken and pizza
- Be physically active every day
- Make sure you take your insulin or other medication that the doctor has told you to.

If your blood glucose is still high, check that you:

- tested properly
- waited for 2 hours after eating before you tested.
- washed your hands
- are not sick or stressed out.

All these things might make your blood glucose reading high. If you keep getting high blood glucose readings, talk to the Clinic.

If you are on insulin and your blood glucose gets too low, you might feel dizzy or get shaky and sweaty. If you feel like this check your blood glucose level. If it’s 4mmol/L or less, eat some carbohydrate foods like a small amount of juice, followed up by a sandwich or meal.
Healthy weight gain is important for both mother and baby.

If you are not gaining enough weight during pregnancy, this can lead to a small sick baby. You should:

- Make sure you eat three meals a day, include healthy snacks between meals like fresh fruit, nuts and seeds, raisin toast, yoghurt, crackers and cheese, milk drinks.
- If you are not gaining enough weight, you should see a dietitian.

If you are gaining too much weight, it might cause high blood pressure and poor blood glucose control. It might also be harder for you to get back to your pre-baby weight after baby comes. You should:

- Reduce how much takeaway food, chips, chocolate, cakes and biscuits that you eat
- Decrease the amount of oil / butter you use in cooking
- Choose low fat dairy products and avoid coconut milk
- Remove visible fat from meat and skin from chicken before you cook it
- Drink water instead of soft drink or cordial and limit fruit juice as this is high in sugar
- Limit chocolate, lollies and sweets
- Increase your physical activity.

Here is an idea of how much weight you should gain during pregnancy. Ask your nurse to help you work out your pre-pregnancy BMI.

<table>
<thead>
<tr>
<th>Pre-pregnancy BMI (kg/m²)</th>
<th>Total weight gain in kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 18.5 kg/m²</td>
<td>12.5 – 18.0</td>
</tr>
<tr>
<td>18.5 – 24.9 kg/m²</td>
<td>11.5 – 16.0</td>
</tr>
<tr>
<td>25.0 – 29.9 kg/m²</td>
<td>7.0 – 11.5</td>
</tr>
<tr>
<td>≥ 30.0 kg/m²</td>
<td>5.0 – 9.0</td>
</tr>
</tbody>
</table>
To manage your diabetes during pregnancy, it’s important to come up with a plan of what you will do.

**My Diabetes Plan**

*What am I going to do?*
- eg. feel healthy, keep my blood glucose (sugar) levels low

*How am I going to do this?*

**My food** – eg. eat three meals a day plus 2-3 snacks

**My exercise** – eg. I will walk to the shop every day

**My medication** – eg. I will take the medication given to me by the health professional

*Who is going to help?*
- eg. with checking my blood glucose levels.
Nutrition for
Diabetes in Pregnancy

References and resources


For information about Life after GDM (Gestational Diabetes Mellitus), please refer to the Diabetes Qld resource, After Baby is Born, available at http://www.diabetesqld.org.au/media/308379/after_baby_is_born.pdf


Institute of Medicine (2010) Recommendations for total and rate of weight gain during pregnancy, by pre-pregnancy BMI.

Diabetes in Pregnancy Part 6
www.healthylivingnt.org.au

Good Food for Diabetes
www.healthylivingnt.org.au

Aboriginal and Torres Strait Islander Guide to Healthy Eating and Australian Dietary Guidelines
www.eatforhealth.gov.au

Food safety during pregnancy

Safe consumption of fish information


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