

# Healthy Eating

for

# Gestational Diabetes



This booklet gives basic information only.  
For personal advice, see your Dietitian

## **GESTATIONAL DIABETES**

Gestational Diabetes is a type of diabetes that occurs during pregnancy due to changing hormone levels. These hormones can interfere with our body's regular blood glucose management. Many things can affect our blood glucose levels but dietary intake of carbohydrates is a major one. When carbohydrate food is eaten, it is broken down by the body into glucose (simplest form of sugar) and released into the bloodstream. Insulin is a hormone produced by the pancreas to help move glucose from the blood into our cells where it is used by the muscles and brain for energy or stored. Glucose is also important for the growth and development of your baby. If the body is not making enough insulin and/ or if insulin is not working effectively, then glucose may not move as efficiently from the blood into the cells and can cause blood glucose levels to remain high. High blood glucose levels may impact on the health of you and your baby.

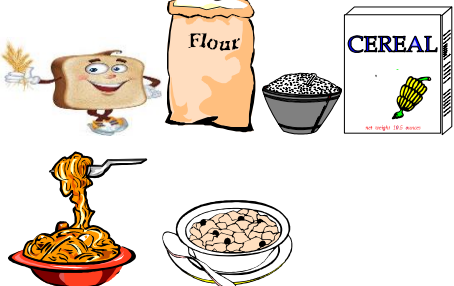
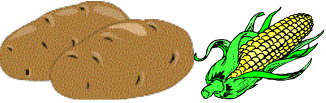



Following a healthy eating plan will assist in:

- Managing your blood glucose levels within the target range
- Providing adequate nutrition for you and your growing baby
- Achieving appropriate weight gain during your pregnancy

## **CARBOHYDRATES**

Carbohydrates are needed for the growth and development of your baby, they are one of your body's primary fuel sources and provide a lot of other important nutrients for pregnancy. You need to be eating carbohydrate regularly throughout the day to ensure a slow and steady supply of glucose in your blood for you and baby. The amount, quality and spread of carbohydrate throughout the day is important to help keep blood glucose levels stable and in optimum range.

## Where is carbohydrate found in foods?

Australian Guide to Healthy Eating - Food Groups	Carbohydrate foods	
Breads & Cereals	Bread, Pasta, Noodles, Rice, Grains, Breakfast cereals, Muesli, Polenta, Quinoa	
Vegetables	Starchy vegetables e.g. Potato, sweet potato, pumpkin, yams, tapioca, taro, corn, carrot	
Fruit	All fruits	
Dairy	Milk, yoghurt, custard, ice cream	
Meat & Meat Alternatives	Lentils, legumes, cooked dried beans, baked beans	

## Carbohydrate portions:

ONE carbohydrate portion is equal to 15 grams of carbohydrate.

Each item below is equal to ONE carbohydrate portion.

### Breads

- 1 slice of **bread**
- ½ medium **bread roll**
- 1 small Indian **roti**

### Fruit

- 1 medium **apple, orange, pear** or **peach**
- 1 small or ½ large **banana**
- 2 or 3 small **plums, kiwifruit, mandarins, nectarines** or **apricots**
- 1 cup **cherries**
- 1 cup **grapes**
- 1 cup **fruit salad** or **pears** canned in juice
- ½ cup **mango** or **pineapple** canned in juice
- 1 ½ tablespoons of **sultanas**
- 5 **prunes**, 4 dried **dates**, 2 dried **figs**, 8 dried **apricot halves**

### Milk Products

- 1 cup of **milk** or **soy milk** (skim, light or full cream)
- ½ cup (100mls) flavoured **yoghurt**
- 1 cup (200mls) **diet** or **natural yoghurt**
- 2 scoops of low fat **ice-cream**

### Cereals

- ⅓ cup of raw **rolled oats** (or ½ cup of cooked porridge with milk)
- ¼ cup of **muesli**
- 1½ **Weetabix** (eg: **Wheat Bix®** or **Vita Brits®**)
- ½ cup of **Guardian®**, **All-Bran®** (original), **Special K®**
- ⅓ cup **Sultana Bran®**, **Just Right®**

### Starchy Vegetables & Common Main Meal Carbohydrates

- ⅓ cup of cooked **pasta** or **rice** or **quinoa**
- ⅓ cup **cous-cous** cooked (1 ½ Tbs dry)
- ¼ cup **Polenta, Semolina**, boiled
- 1 small (egg size) **potato** or ½ large **potato**
- ½ cup of **sweet potato** or **taro**
- ½ cup of **sweet corn** or ½ medium corn on the cob
- ½ cup of **baked beans, kidney beans, borlotti beans, cannellini beans** or **chickpeas**
- ¾ cup of **lentils** (**red, green, brown**) boiled
- 2 large **carrots**
- ¾ cup **parsnip** or **pumpkin** (baked)

### Biscuits & Crackers

- 2 **Ryvita®** crackers
- 2 **Salada** or **Premium biscuits**
- 2 thick or 4 thin **Rice cakes**
- 4 **Vita-weat®** crackers (regular size)
- 10 **Rice crackers**
- 4 **Arnotts™** **Cruskits**
- 2 **Arnotts™** **Snack Right Fruit slice**
- 6 **Jatz biscuits**
- 3 **Sao biscuits**

Recommended carbohydrate portions (maximum 9 -14 portions per day):

Breakfast	Snack 1	Lunch	Snack 2	Dinner	Snack 3	Total (per day)
2-3 portions (30-45g)	1-2 portions (15-30g)	2-3 portions (30-45g)	1-2 portions (15-30g)	2-3 portions (30-45g)	1 portion (15g)	135- 183g

You may be able to eat less than this. Check with your Diabetes Educator, Dietitian or Doctor.

- Aim to eat 3 main meals and 3 snacks throughout the day, with carbohydrate foods at each meal and snack
- Spread meals and snacks out evenly over the day, aiming to eat every 2-3 hours.
- Early meals are often best. Late meals can lead to high glucose levels. If possible, have breakfast before 9.30 am, and your evening meal before 7.30 pm.
- Do not skip meals or snacks. This can lead to hunger and overeating at other meals/snacks which could result in high blood sugar levels.
- Eat similar amounts of carbohydrates consistently from day to day
- For twins/ multiple pregnancies, you will require additional carbohydrate across the day to account for your higher energy requirements. Speak with your Dietitian to discuss your specific needs.
- If following a vegetarian/vegan diet, it is important that you choose to include carbohydrate sources that are also sources of protein e.g. lentils/ legumes, milk, yoghurt, tofu and paneer to

ensure you are achieving adequate protein intake during pregnancy

- Try to avoid highly refined carbohydrate foods e.g. table sugar (sucrose), soft drinks, cordials, fruit juices, lollies, cakes and biscuits as they contain little nutritional value.
- Eating the recommended carbohydrate portions at meals/ snacks, in combination with an adequate low fat/ lean protein source and lots of non-starchy vegetables will help keep you fuller for longer, optimize your blood sugars (preventing low/ high blood sugar readings) and promote recommended weight gain (not excessive weight gain).
- In some cases, women may be eating the recommended amount and type of carbohydrates but still have high blood glucose levels. If this happens, it is important not to further cut back on carbohydrates. You may require medication to help manage your blood glucose levels. The doctors will discuss this with you as required.

### **What about the Glycaemic index (GI)?**

The GI is a measure of how quickly the carbohydrate in food is broken down into glucose and released into the bloodstream. The GI refers only to foods that contain carbohydrates. Low GI carbohydrates are broken down and released more slowly (than high GI carbohydrates) into the bloodstream. Choosing and including low GI carbohydrates will help to optimise your blood sugar levels.

A low GI diet:

- Leads to smaller rises in blood glucose levels resulting in better control of diabetes
- Helps you to feel fuller for longer which can prevent overeating
- Helps to manage body weight

Low GI	High GI
Burgen bread (Soy-Linseed, Rye, Pumpkin seed), Pumpernickel, Tip Top 9 grain and Spicy fruit loaf, Authentic sourdough (rye and wheat), Corn Tortilla	White bread, Melba Toast, Bagel, Lebanese bread (white), Wholemeal bread, Turkish bread, Gluten free bread, French Baguette
Rolled Oats, All Bran original, Guardian, Untoasted muesli, Oat bran, Special K (original, fruit and nut medley), Sustain, Semolina cooked	Coco Pops, Corn flakes, Rice Krispies, Rice bubbles, Instant oats, Crunchy nut cornflakes, Mini Wheats
Ryvita (Pumpkin seeds, sunflower seeds and oats crispbread), Rich tea biscuits	Corn Thins, Rice cakes/crackers, Pretzels, Sao, water crackers, Cruskits
SunRice Clever Rice (Doongara), SunRice naturally low GI (Brown and White) Wheat Pasta, Basmati Long grain rice, Israeli cous cous, Mung bean noodles, Rice noodles, Quinoa	Rice (Instant, Jasmine, Brown, Calrose, Arborio), Sushi Rice, Millet, Tapioca, Gnocchi, Udon noodles, Instant noodles, Cous cous
Corn, Yam, Soya beans, Legumes, Carisma potatoes (Coles), Sweet potato (orange fleshed)	Potatoes (new, Sebago, Desiree, Pontiac). Sweet potato (white fleshed)
Milk (cows, soya and almond), Yoghurt, Fruche, Low fat ice cream	Rice milk, Oat milk
Most Fruit	Watermelon, Lychees

For a more detailed list you can contact your dietitian.

## PROTEINS/FATS/VEGETABLES

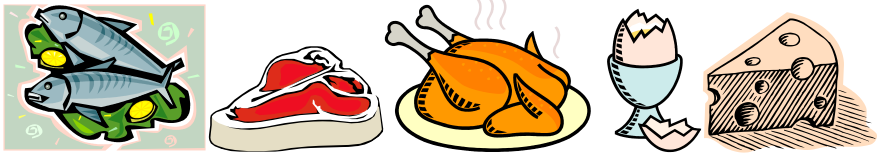
### PROTEIN

Meat, chicken, fish, seafood, eggs, nuts and yellow cheese do not contain carbohydrate, so they will not raise your blood glucose level and therefore can be eaten at any time of the day.



Pairing a protein source with your carbohydrate at meals/ snacks will slow carbohydrate breakdown and release which is advantageous for your blood sugar levels.

Cold meats, soft cheeses and some types of fish should be avoided in pregnancy. Ask your dietitian or midwife if you are not sure.



Note: Yoghurt, milk and legumes are also good sources of protein, but they are carbohydrate containing so they need to be included in your carbohydrate portions for the day.

## FAT

Fat in food will not raise your blood glucose level, but it can contribute to excess pregnancy weight gain and make you more insulin resistant. Aim to limit your intake of saturated fats 'unhealthy' fats (by choosing to include low fat dairy and lean proteins) and where appropriate, increase intake of unsaturated fats 'healthy' fats (e.g., canola/ olive oils, margarine, nuts, and avocado).

You may benefit from eating **less fat**:

- If you were overweight before you fell pregnant, or
- If you have already gained too much weight in your pregnancy

You may benefit from eating **more fat**:

- If you were underweight before you fell pregnant
- If you are not putting on enough weight in your pregnancy
- If you are having twins

## VEGETABLES

Vegetables are vital for good health and are an excellent source of fibre (aiming for 28g fibre per day). Aim for 5 serves of vegetables every day.

Non-starchy / salad vegetables will not raise your blood glucose and may be eaten freely – fresh, frozen, canned, raw and/ or cooked. When preparing your main meal plate, aim to have half of your plate filled with non-starchy/ salad vegetables.

Semi starchy vegetables such as carrots and corn can cause a rise in your blood glucose levels if eaten in large quantities.

Starchy vegetables such as potato, sweet potato and pumpkin are carbohydrate containing and will therefore need to be included in your carbohydrate portions for the day.

**Also have freely:** Herbs, spices



## FREQUENTLY ASKED QUESTIONS

What should I do if my blood glucose reading is high after a meal?

### Don't panic!!

- Do not skip your next snack or meal. This could lead to hunger and overeating later. Most of the time, blood glucose levels will come back to normal on its own over the next 30 minutes.
- Stay active if you can.
- There is no need to test again to see if the level has come down.
- In your glucose book, write down what you ate and drank the meal before the test.

## To prevent more high readings

- Make sure you avoid carbohydrate foods between your main meal and post meal blood sugar testing.
- Eat your meal within 30 minutes.
- Wash and dry your hands before testing.
- Always test 1-2 hours (as instructed by Diabetes Educator/ Doctor) from the start of the meal
- Make sure that you are eating the recommended carbohydrate portions at main meals i.e., 2-3 portions.
- Check that your snack is not too close to your next meal.
- Try having earlier meals.
- Try introducing some physical activity after main meals.
- Try replacing 'higher glycaemic index' carbohydrates with 'lower glycaemic index' carbohydrates. This can make a big difference.
- Pair a source of protein and/ or fibre with your carbohydrate containing foods at meals and snacks

## **What if I do all this and my readings are still high?**

You may need medication (tablets or insulin) if you are following all the advice above and are still getting more than 2-3 high readings per week after meals. **This does not mean you have failed!** It just means your body is not making enough insulin or insulin is less effective, due to pregnancy hormones.

Cutting out carbohydrate is not the answer! This will cause other problems, such as:

- excess hunger and food binges
- lack of energy
- poor weight gain
- constipation
- high blood ketones (which may not be healthy for baby)

## **What if my morning (fasting) blood sugar level is high (more than 5.0)?**

1. Make sure you are not eating or drinking carbohydrate in the 8 hours before your test. If you wake up hungry, eat non-

carbohydrate containing foods. Stop night-time hunger by eating enough through the day.

2. If you have not been having a snack before bed, start doing this. A pre-bed snack improves morning glucose in some people. A glass of milk often works well. Also make sure you are having at least 2 carbohydrate portions at your evening meal.
3. If you have been having a snack before bed, ensure it is only 1 portion of low glycaemic index carbohydrate, such as a glass of milk, 200g natural yoghurt or 1 slice of bread. Eat enough through the day, so you are not too hungry in the evening.
4. Do some physical activity in the afternoon or evening.

If you try these ideas and are still getting 2 or more high morning readings a week, you might need medication/insulin. Speak with your diabetes educator/ doctor.

### **I'm hungry! What else can I eat?**

If you are hungry at a meal/ snack and/ or in-between your carbohydrate containing meals and snacks, eat foods that do not contain carbohydrate such as: meat, chicken, fish, nuts, eggs, hard cheese, non- starchy/ salad vegetables

Excess hunger and 'sugar cravings' are mostly caused by poor eating at other times of the day. If this is happening:

- Make sure you are eating the recommended carbohydrate portions at meals and snacks, choosing the upper end of the recommended range if required.
- Don't miss your healthy snacks in between meals.
- Check you are eating a balanced diet with foods from all five food groups i.e., wholegrain breads & cereals, fruit, vegetables, dairy, meat and meat alternatives.
- Ensure you are eating enough protein and fibre containing foods throughout the day.

## Am I putting on too much or not enough weight?

<u>Weight range before pregnancy</u>	<u>Target weight gain during pregnancy</u>
Obese	0-6 kg
Overweight	7-11 kg
Normal weight	11 – 16 kg
Underweight	12 – 18 kg

Your midwife, doctor or dietitian can help you work out which weight group you were in before pregnancy, if you are not sure.

**If you are putting on too much weight:** Watch your portion size, try eating less fat/ discretionary items and doing more physical activity. Always have a good breakfast, eat lots of vegetables and don't skip your healthy snacks.

**If you are not putting on enough weight:** Try eating more protein foods and 'healthy' fats, such as canola/ olive oil & margarine, nuts, and avocado. Full fat dairy is fine for now. Don't skip meals or snacks, and make sure you are getting the recommended amount of carbohydrates per day.

### **Poor eating is serious in pregnancy!**

Please tell your diabetes educator, dietitian, or doctor if you have any of these signs:

- You feel hungry most of the time
- You often get hungry in the 2 hours between your meal and glucose test
- You are waking up hungry in the night
- You have lost weight for more than 2 clinic visits in a row
- Your urine test has shown 'ketones' at 2 or more clinic visits
- You are over 20 weeks pregnant, and have not gained weight over the last month

These signs are not normal or healthy!

### **Can I breastfeed after having GDM?**

Yes, try to breastfeed if you can. There are many benefits for mum and baby. Breastfeeding may even lower the risk of type 2 diabetes. Breastfeeding may help you lose weight as long as you keep up healthy eating.

### **How can I prevent diabetes later in life?**

Gestational Diabetes usually goes away once baby is born however having had gestational diabetes puts you at higher risk for developing type 2 diabetes later in life. To reduce your risk of developing diabetes later in life it is important to maintain a healthy lifestyle and avoid gaining excessive weight as you get older. Weight gain, particularly around the 'tummy' area, is linked with Type 2 diabetes.

- Stay physically active
- Eat regular meals and snacks
- Eat plenty of vegetables and fruits
- Eat wholegrain/high fibre breads and cereals, rather than white breads and refined cereals
- Limit or avoid high fat foods, particularly saturated animal fats such as fatty meats, chicken skin, butter, lard, ghee, full cream dairy, cream, cakes and takeaways.
- Choose low fat dairy and lean meats (remove any visible fat, remove chicken skin)
- Choose to include small amounts of healthy fats e.g. vegetable (canola/ olive) oils, margarine, nuts, avocado, oily fish

Try to return to the weight you were before pregnancy. This could take up to 12 months. Avoid short-term 'diets', as they often cause more harm than good.

## Will my children get diabetes?

Having Gestational Diabetes shows us that the risk for diabetes is in your family. You, your parents, brothers and sisters should have regular checks for diabetes. Your children will not be born with diabetes, but they are at a higher risk to get type 2 diabetes later in life, particularly if they become overweight.



Childhood is the best time to teach healthy eating and physical activity. Takeaway foods, lollies, chips, cakes, soft drinks and juices should be for special occasions only. Most of the advice in this booklet is healthy for the whole family. Please note though, that children under 2 should have full fat dairy products.

## What should I look for on food labels?

1. Find the nutrition information panel.
2. Look for '*Carbohydrate total*', not '*Sugars*'. '*Carbohydrate total*' accounts for all carbohydrate sources in the food, including '*Sugars*' which just refers to sweet tasting sugars. You only use '*Carbohydrate total*' value, do not add '*Carbohydrate total*' and '*sugars*' together.
3. Use the per servings column to determine amount of total carbohydrate in the product.

For a food,

- if the Carbohydrate Total per serving is 15-30g, this is usually OK for a snack if no other *carbohydrate foods* are eaten at the same time.
- if the Carbohydrate Total per serving is 30-45g, this is usually OK for a meal if no other *carbohydrate foods* are eaten at the same time.

Compare the product's **servicing size** to the amount you would eat.

### NUTRITION INFORMATION

Servings per package: 3

Serving size: 150g

	Quantity per 100g	Quantity per serving	
Energy		608 kJ	405 kJ
Protein		4.2 g	2.8 g
Fat, total		7.4 g	4.9 g
- saturated		4.5 g	3.0 g
<b>Carbohydrate, total</b>		<b>18.6 g</b>	12.4 g
- sugars		10.1 g	8.3 g
Dietary fibre		0.9 g	0.6 g
Sodium		90 mg	60 mg

#### **Total Carbohydrate**

15 g total carbohydrate = 1 carb portion = snack size

30g total carbohydrate = 2 carb portions = snack or small meal size

45g total carbohydrate = 3 carb portions = meal size



## Example Meal Plan for Gestational Diabetes

**\* Carbohydrate containing foods have been bolded and italicized**

<b>Breakfast</b>	2-3 slices <b>high fibre/ wholegrain bread</b> with eggs/ reduced fat cheese/ peanut butter/ avocado/ meat/chicken/fish with vegetables/leafy greens	2-3 portions (30-45g) carbohydrate
	OR  ½ cup <b>high fibre cereal e.g. All-bran, Guardian, Special K</b> With 1 cup <b>reduced fat milk</b> or 1 (200g) <b>tub natural yoghurt</b> +/- 1 small <b>banana</b> or 1x medium <b>apple</b>	2-3 portions (30-45g) carbohydrate
<b>Morning tea</b>	1 tub (200g) <b>natural yoghurt</b> +/- 1x <b>apple</b> OR 1x <b>orange</b> OR 2x <b>kiwi fruit</b> +/- handful of nuts	1-2 portions (15-30g) carbohydrate
<b>Lunch</b>	Sandwich: 2 slices <b>high fibre/ wholegrain bread</b> with lean meat/chicken/fish/ egg/ reduced fat cheese + salad vegetables	2-3 portions (30-45g) carbohydrate
	+/- 1x piece of fruit e.g., 1x <b>apple</b> OR 1x <b>orange</b>	
	OR	
	Salad: Lean meat/chicken/fish/ egg/ reduced fat cheese + salad vegetables + either 1- 1½ cups <b>chickpeas</b> OR 1½ - 2¼ cups <b>lentils</b> OR 2/3 – 1 cup <b>cous cous</b> OR 1-1½ medium <b>corn cobs</b>	2-3 portions (30-45g) carbohydrate
	OR	
	Lean meat/chicken/ fish with salad/stir fry/ roasted non-starchy vegetables with either 1 cup of <b>rice</b> OR <b>pasta</b> OR <b>couscous</b>	3 portions (45g) carbohydrate

<b>Afternoon tea</b>	4-8 <b>Vita-weat® crackers</b> With reduced fat cheese & tomato/ avocado/ peanut butter	1-2 portions (15-30g) carbohydrate
<b>Dinner</b>	Lean meat/chicken/ fish with 1½ cups <b>sweet potato</b> OR 2-3 small <b>potatoes</b> and salad/ non-starchy vegetables	2-3 portions (30-45g) carbohydrate
	OR  Homemade pizza (1x <b>Lebanese bread</b> with tomato paste, non- starchy vegetable toppings e.g., tomato/ mushroom/ olives/ eggplant/ zucchini, lean meat/chicken and cheese	3 portions (45g) carbohydrate
	OR  Lean meat/chicken/fish and vegetable curry (non- starchy vegetables + ¾ cup <b>lentils</b> + ½ cup <b>kidney beans</b> ) with 1/3 cup <b>rice</b> *Note, if adding any starchy vegetables to curry, amounts of other carbohydrate containing food items will need to be adjusted.	3 portions (45g) carbohydrate
<b>Supper</b>	1 cup <b>reduced fat milk</b> OR 1 tub (200g) <b>natural yoghurt</b> OR 1 slice <b>high fibre/ wholegrain bread</b> with slice of low-fat cheese	1 portion (15g) carbohydrate

*Drinks:*

\* Water, tea and coffee do not contain carbohydrate. Be mindful of caffeine in tea/ coffee and try not to add sugar.

\* If adding milk in decent quantity to tea or coffee, you will need to include this in your carbohydrate portions. Best to include this milky tea/ coffee at your meals or snacks rather than randomly throughout the day

\* Best to avoid fruit juices

NOTE: the meal plan above is an example only and may not suit everyone. For a plan that suits your needs, please see your Dietitian.

Dietitians:

Nikki Levitas 9382 6544 (Mon – Thurs) & Michelle Tal 9382 6006 (Thurs – Fri)

# Patient Information Consumer Check Response Form

## Reviewing Instructions

Please read through the attached resource and consider the following questions. Please provide any specific details of required changes in text as tracked changes.

- Is the information provided clear and easily understood? YES:  NO:
- Did you have to pause to understand the meaning at any point? YES:  NO:
- Is the language used simple to understand? YES:  NO:
- Do the graphics (if applicable) line up in appropriate place in the text? YES:  NO:

**Any other comments about this resource?**

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