

HEALTHY EATING FOR GESTATIONAL DIABETES

What is gestational diabetes?

Gestational diabetes occurs in pregnancy due to changes in your hormone levels. These changes can make the level of glucose (a type of sugar) in the blood too high. A higher than normal level of glucose in the blood while you are pregnant can cause problems for the baby, such as growing too large, early birth, distress during birth and low blood glucose levels after birth.

Why is your diet important in gestational diabetes?

Eating the right foods in pregnancy can help you:

- Get enough nutrition for you and your growing baby
- Control your blood glucose levels
- Gain your recommended amount of weight

Adequate nutrition for you and your baby

It is important to eat a variety of healthy foods to meet your and your baby's nutritional needs. The recommendations for women with gestational diabetes are similar to those for all pregnant women, with some additional guidelines.

General pregnancy recommendations on how much to eat

Food groups	Serves each day	Examples of one serve	
Fruit	2	1 medium apple or orange 1 cup diced/canned fruit 2 small apricots or plums	or only occasionally: ½ cup fruit juice 1½ tablespoons sultanas
Vegetables	5	½ cup cooked or 1 cup raw/salad vegetables ½ cup corn kernels ½ medium potato/sweet potato	
Wholegrain breads and cereals	8 ½	1 slice bread ½ cup cooked porridge ½ medium roll	⅔ cup cereal flakes ¼ cup muesli ½ cup cooked rice, pasta, noodles, quinoa, barley
Milk, yoghurt, cheese and alternatives	2 ½	1 cup milk or alternatives (for example soy milk) with at least 100mg calcium per 100ml 2 slices cheese 200g yoghurt	
Lean meat or alternatives	3 ½	65g cooked meat 170g tofu 80g cooked chicken 30g nuts or seeds	100g cooked fish 1 cup cooked legumes/beans such as lentils and chickpeas 2 large eggs

Limit (eat in small amounts)

- High mercury fish. Most fish can safely be eaten 2 to 3 times per week. However some fish may contain high levels of mercury which can be harmful to your baby's development and should be limited as follows:
 - Limit high mercury fish (shark/flake, swordfish, broadbill, marlin) to one serve (150g) in two weeks with no other fish that fortnight.
 - Limit moderate mercury fish (orange roughy, catfish) to one serve (150g) in a week with no other fish that week
- Caffeine. Aim to have to less than 200mg/day (cafe coffee has 90-120mg/250ml, tea has 10-50mg/250ml). Coffee and tea should not be consumed in the two hour period between eating and testing blood glucose levels.
- Unhealthy fats such as fatty meats and fried foods, added sugars and added salt.

Avoid (don't eat or drink)

- Alcohol
- High risk listeria and salmonella (bacteria) foods such pre-prepared salads, deli meats, raw or under-cooked eggs, meat, poultry or fish and soft white cheeses such as uncooked paneer and feta cheese.

Controlling your blood glucose levels

There are two key factors to consider when managing your diabetes with diet:

- Type of carbohydrate
- Amount of carbohydrate

What are carbohydrates?

Carbohydrates are:

- Sugars - such as added sugar in soft drinks and sweets or natural sugars found in healthy foods like fruit and milk
- Starches - found in many healthy foods such as bread, rice, pasta, some vegetables, for example potato, that break down to glucose during digestion

Carbohydrate containing foods

Food group	Carbohydrate containing foods	Little or no carbohydrate
Wholegrain breads and cereals	Bread, roti, chappati, pasta, rice, noodles, breakfast cereals, other grains such as bulghur, couscous, semolina	
Fruit	All fruit including juices and dried fruit (such as dates, raisins and sultanas)	Avocado
Vegetables	Potato, sweet potato, pumpkin, corn, peas, legumes (beans and chickpeas) and lentils	All other cooked and salad vegetables (referred to as 'low starch' vegetables)
Milk, yoghurt, cheese and alternatives	Dairy, oat, sweetened almond and soy milks Yoghurt	Cheese, paneer Unsweetened almond and soy milk
Lean meats or alternatives	Legumes and lentils	Meat, chicken, fish, eggs, tofu, nuts and seeds

Herbs and spices such as garlic, cumin, paprika, coriander, cinnamon, chilli, mustard seeds, cloves, coriander and pepper do not contain carbohydrate and can still be used to flavour food.

The high carbohydrate foods above will directly affect your blood glucose levels. The foods which are low in carbohydrate will not significantly affect your blood glucose levels.

Sugar

Carbohydrate foods that don't contain much nutrition include table sugar (white and raw), jaggery, soft drinks, honey, lollies, cakes, sweet biscuits, chocolate, and Indian sweets and desserts. It is best to limit these foods to avoid high blood glucose levels and for your general health. Small amounts of sugar (any type) or honey, such as one teaspoon in a hot drink, should not increase blood glucose levels much.

Intense or artificial sweeteners

Intense or artificial sweeteners contain either little or no carbohydrate. They are considered safe alternatives to sugar during pregnancy, Sweeteners include Aspartame (Equal), Sucralose (Splenda) and Stevia and are also found in artificially sweetened products such as diet/zero soft drinks.

What about fats?

While fats do not affect your blood glucose levels in the same way as carbohydrates, it is recommended to eat healthier fats such as oily fish, olive oil, nuts, seeds and avocados. Limit deep fried foods (such as samosa, pakora, bonda, chips)

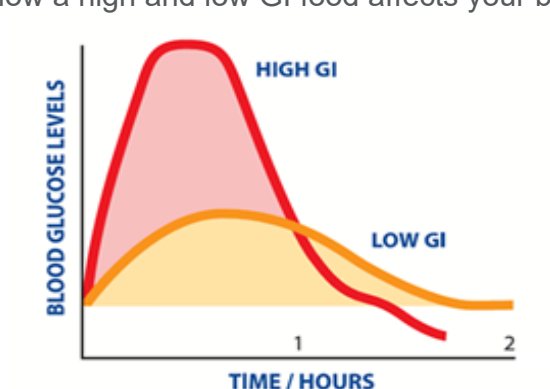
What type of carbohydrate foods should I eat?

The Glycaemic Index (GI) is a measure of how quickly or slowly a carbohydrate food digests and increases blood glucose levels.

A lower GI carbohydrate food will increase your blood glucose level more slowly

A higher GI carbohydrate food will increase your blood glucose level more quickly

The graph below shows how a high and low GI food affects your blood sugar level over a two hour period



Lower GI carbohydrates are the preferred choice for managing your diabetes and can help to avoid the need to use insulin.

The table on the next page shows you examples of lower GI and higher GI choices. If you often choose higher GI foods, try swapping them for options in the lower GI column. Refer to the [Supermarket Shopping Guide](https://baker.edu.au/health-hub/fact-sheets/shopping-guide) (<https://baker.edu.au/health-hub/fact-sheets/shopping-guide>) for brand names of recommended products. Note: This guide is not specific to pregnancy. Please continue to follow standard food safety recommendations for pregnancy (see info provided on page 2).

Glycaemic index of carbohydrate foods

Food category	✓ Lower GI	✗ Higher GI
Breads and flours	✓ Wholegrain bread slices, wraps and chapatti ✓ Flatbread or naan or roti made with whole-wheat/grain flour and atta mix ✓ Low GI white bread ✓ Besan (Bengal gram) flour, bajra flour, kuttu flour, jau flour ✓ Fruit bread ✓ Sourdough, sourdough rye bread	✗ White or wholemeal bread slices, flatbread ✗ White or wholemeal flatbreads or naan or roti ✗ Fried bread (puri) ✗ White Lebanese bread ✗ Turkish bread ✗ White flour
Cereals	✓ Untoasted muesli ✓ Rolled oats (porridge) ✓ Wholegrain cereals ✓ Up & Go	✗ Puffed rice, rice flakes and rice porridge ✗ Instant oats (porridge) ✗ Corn flakes ✗ Puffed wheat ✗ Coco Pops, Rice Bubbles ✗ Froot Loops
Rice, pasta and grains	✓ Long grain rice, brown or white, such as basmati, doongara, mahatma ✓ Wild, red or black rice ✓ Wheat pasta (white and wholemeal) ✓ Bulgur or cracker wheat ✓ Semolina, pearl couscous, barely ✓ All noodles	✗ Jasmine rice white or brown ✗ Short grain rice white or brown ✗ Polenta ✗ Couscous ✗ Millet
Starchy vegetables	✓ Legumes such as lentils, red beans/kidney beans, chickpeas, mung beans, broad beans, dahl ✓ Orange sweet potato, Nicola potato ✓ Carisma and baby Carisma potato ✓ Butternut pumpkin ✓ Corn, peas ✓ Yam, cassava and taro	✗ White potato ✗ Purple sweet potato ✗ Pumpkin (varieties other than butternut)
Fruit	✓ Strawberries and other berries ✓ Apples, pear, bananas ✓ Orange, mandarin, kiwifruit, grapes ✓ Nectarines, peaches, apricot, plums, mango ✓ Passionfruit, guava, grapefruit ✓ Dates ✓ Tinned fruit in natural juice (not syrup)	✗ Rockmelon, watermelon ✗ Tinned fruit (in syrup) Note: Consume only small amounts of dried fruit, fruit juice and unsweetened coconut water. Fresh fruit is preferable.
Milk and yoghurt	✓ Dairy milk and yoghurt ✓ Soy milk and yoghurt ✓ Butter milk	✗ Oat milk ✗ Rice milk ✗ Sweetened condensed milk
Biscuits and crackers	✓ Wholegrain crackers e.g. Vita-Weat 9 grain, Ryvita multigrain ✓ Arnott's Snack Right biscuit fruit slice/pillow	✗ Cakes ✗ White savoury crackers such as Savoy, Sao or Salada ✗ Rice crackers and rice cakes ✗ Puffed corn thins and crispbreads ✗ Plain sweet biscuits ✗ Indian rusk biscuits
Extras	✓ Low fat ice cream and custard ✓ Milo/Ovaltine	✗ Indian sweets and desserts, such as Gulab Jamun, Jalebi, kheer (rice pudding) ✗ Fried pastries such as samosa

What amount of carbohydrate should I eat?

A total of approximately 180-225g of carbohydrate per day is recommended to meet your requirements in pregnancy.

Your carbohydrate needs are actually greater during your pregnancy. Glucose is needed for the healthy development of your baby.

You should not avoid carbohydrates to control blood glucose levels.

How to count carbohydrates in portions.

- 15g of carbohydrate = 1 portion of carbohydrate
- 180 - 225g of carbohydrate = 12 -15 portions of carbohydrate

Below is an example of how you can spread out your carbohydrate intake throughout the day.

- **Eat three portions of carbohydrate (45g) at each main meal.**
- **Eat one to two portions of carbohydrate (15-30g) at each snack.**



The table on the next page shows you examples of carbohydrate portions.

Not all foods listed are low GI. Where possible eat low GI foods.

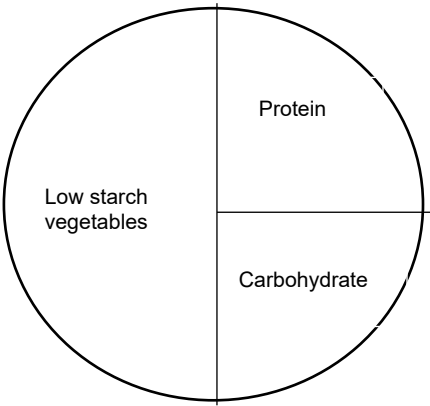
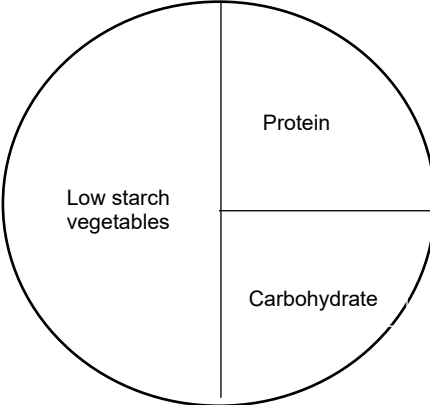
Using a metric measuring cup (250ml) to serve your carbohydrate foods can help you count your carbohydrate portions correctly. For example 1 cup cooked rice/pasta = 3 carbohydrate portions.

How to count carbohydrate portions

Carbohydrate food	One portion (approximately 15g carbohydrate)	
Breads and Flours	1 slice bread or fruit bread ½ bread roll 1 small dinner roll ⅓ large flatbread 1 small (30g or 15cm diameter) flatbread ⅓ cup uppuma ⅓ cup poha	1 small (30g or 15cm diameter) chapatti ⅔ (30g) naan bread 1 small (30g or 15cm diameter) plain dosa or idli 1½ besan cheela (15cm diameter)
Cereals	2 tablespoons (¼ cup) rolled oats or muesli ½ cup cooked porridge	1½ Weet-Bix ½ cup breakfast cereal
Rice, pasta and grains	⅓ cup cooked rice ⅓ cup cooked bulgur or cracked wheat ½ cup cooked noodles	⅓ cup cooked white pasta ⅓ cup cooked semolina or couscous
Starchy vegetables and legumes	1 small potato ¾ cup canned or cooked lentils ½ cup canned or cooked legumes: (red beans or kidney beans or chickpeas) ½ cup cooked sweet potato or taro or yam	½ cup corn kernels 1 ½ cups green peas ½ cup sweet potato 1 cup cooked pumpkin
Fruit	1 medium apple, orange, pear or peach 4 dates ½ large banana 1 small banana ½ cup grapes 1½ cups melon, pineapple 1 cup berries, cherries ½ cup fruit juice 3 medium apricots	1 whole grapefruit or pomegranate 250g punnet strawberries 2 medium nectarines, plums ½ cup tinned fruit 1 tablespoon sultanas 6 dried apricots, prunes 2 small mandarins or kiwi fruit ½ mango 1 cup (250ml) coconut water
Milk and yoghurt	100g fruit yoghurt 200g yoghurt, plain	1 cup (250ml) milk (all types, excluding unsweetened almond or soy milk)
Other dairy	2 small scoops ice cream	⅓ cup custard
Biscuits, crackers and extras	2 Ryvita 4 Vita-Weats 1 small muesli bar 10 rice crackers 6 small salada or savoy	3 cups air popped popcorn 2 Indian rusk biscuits 3 multigrain corn thins or rice cakes
Flour	2 tablespoons white or wholemeal flour ⅓ cup besan (Bengal gram) flour	⅓ cup atta flour

Note: The "little or no carbohydrate foods from page 2 = 0 carbohydrate portions"

Sample meal plans

	Option 1	Option 2
Breakfast (3 portions carbohydrate)	2 small chapatti or dosa + 1 small potato with 1 egg or 15g nuts	2 Weet-Bix + 250ml milk + ½ small banana with 1 egg or 15g nuts
Morning snack (2 portions carbohydrate)	1 portion fruit + 4 Vita-Weat crackers with 40g cheese	200g tub fruit yoghurt
Lunch (3 portions carbohydrate) 	Lean meat curry: Mutton or lamb or chicken or fish + 1 cup cooked long grain or basmati rice + ½ plate salad or low starch vegetables	Vegetarian curry: Paneer or tofu + 2 small chappati + 1 small potato or 1 cup cooked pumpkin + ½ plate salad or low starch vegetables
Afternoon snack (2 portions carbohydrate)	1 portion fruit + 200g natural yoghurt	1 portion fruit + 4 Vita-Weat crackers with 40g cheese
Dinner (3 portions carbohydrate) 	Lean meat curry: Mutton or lamb or chicken or fish + 1 cup cooked long grain or basmati rice + ½ plate salad or low starch vegetables	Vegetarian curry: ¾ cup lentils + 2 small chappati + ½ plate salad or low starch vegetables
Evening snack (1 portion carbohydrate)	250ml milk + 30g nuts	1 slice multigrain bread with natural peanut butter or avocado

Note: Avoid eating in the two-hour period between your meal and blood glucose test.

What can I drink?

- Choose mainly water, plain mineral water and soda water. Add fresh lemon or lime for flavour.
- Plain milk or soy milk provides a good source of calcium and protein. Remember that milk, soy milk, and coconut water contain carbohydrates and need to be included in your carbohydrate portions.
- Tea, coffee, diet soft drink and diet cordials can be consumed in moderation.

What if I still feel hungry?

If you still feel hungry add extra foods that are low in carbohydrate to your meals and snacks. Look at the table on page 2 for the list of “little or no carbohydrate” foods. You can also check the table on page 1 for serve recommendations for each food group.

What if my blood sugars are still high?

Sometimes you may be eating the right amount and type of carbohydrate but will still have high blood glucose levels. If this occurs it is important not to avoid carbohydrates or restrict them too much as this can impact you and your growing baby. Some women need extra help to manage their blood glucose levels and may require insulin.

After your pregnancy

Am I at risk of developing Type 2 diabetes?

Your blood glucose levels will usually return to normal after the birth of your baby. Gestational diabetes is a risk factor for developing Type 2 diabetes later in life.

Eating healthy foods, controlling body weight, regular exercise and breastfeeding can reduce this risk.



For more information

If you have any questions or need further advice, please call us:

Monday to Friday 8.00am to 4.00pm

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