

# Healthy eating for Gestational Diabetes Mellitus



**This information has been developed for use in educating women about healthy eating and the dietary management of gestational diabetes.**

**It should be used in conjunction with a dietary assessment by an Accredited Practicing Dietitian.**

*Developed by the Diabetes in Pregnancy Innovation Project and the Nutrition Education Materials Online Project, October 2008.*

*Endorsed by the State wide Diabetes Clinical Network Steering Committee, October 2008.*

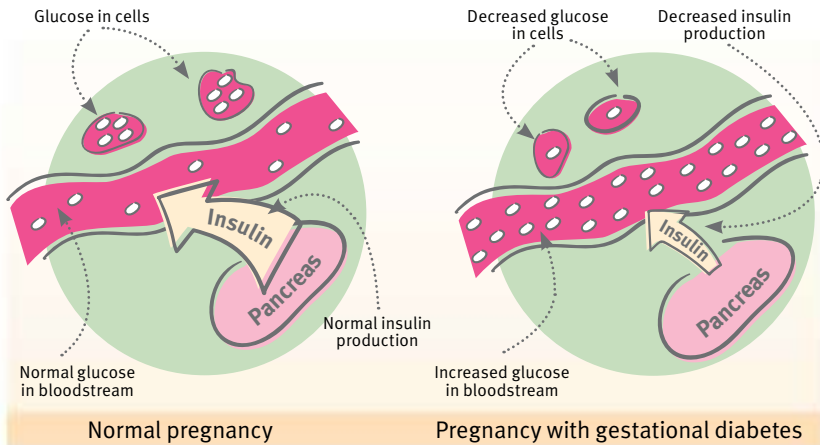
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# What is gestational diabetes?

*Gestational diabetes is a type of diabetes that occurs during pregnancy due to changes to the normal hormone levels. Diabetes is a condition where the level of glucose (a type of sugar) in the blood is too high.*



When carbohydrate foods are eaten, these sweet or starchy foods are broken down by the body into glucose and released into the blood. When the glucose levels in the blood increase the body releases an increased amount of insulin. This insulin helps move the glucose out of the blood and into the body's cells where it can be used for energy.

With the hormone changes during pregnancy, sometimes insulin does not act as it should to keep blood glucose levels in a normal range and they increase. If not treated, these high blood glucose levels in pregnancy can cause problems such as a large baby, early delivery, distress for the baby during birth and/or low blood glucose levels in the baby at birth.

Gestational diabetes is usually managed by following a healthy well-balanced eating plan taking into consideration your carbohydrate intake and physical activity. If women are unable to manage their gestational diabetes with diet and activity alone, sometimes medication or insulin is needed. Ongoing, regular contact with diabetes educators, dietitians, specialists and attendance at antenatal clinics during pregnancy is important.

# Know your carbohydrate foods

- ✿ Carbohydrates are found in many foods.
- ✿ They are the type of food that the body breaks down to glucose.
- ✿ It is important to include carbohydrate at each meal.
- ✿ Spread the carbohydrate evenly between meals.

**1 portion/exchange = 15g of carbohydrate**

## Cereals and grains

1 portion = 1 regular thin slice bread,  $\frac{1}{2}$  cup cooked pasta,  $\frac{1}{3}$  cup cooked rice,  $\frac{2}{3}$  cup cereal, 2–3 biscuits or  $\frac{1}{4}$  cup raw oats.



Bread



Crackers



Cereal



Rice



Pasta

## Starchy vegetables and legumes

1 portion = 1 medium potato,  $\frac{1}{2}$  cup legumes,  $\frac{1}{2}$  cup corn or  $\frac{1}{2}$  cup mashed sweet potato/potato.



Potato/sweet pot



Corn



Legumes  
(e.g. Baked beans)

## Fruit (Fresh, canned, or dried)

1 portion = medium apple,  $\frac{1}{2}$  banana, 1 tablespoon dried fruit or 125ml fruit juice.



## Dairy products (not cheese)

1 portion = 1 cup milk,  $\frac{1}{2}$  tub fruit yoghurt (100g), 1 tub natural yoghurt (200g) or  $\frac{1}{2}$  cup custard.



Milk

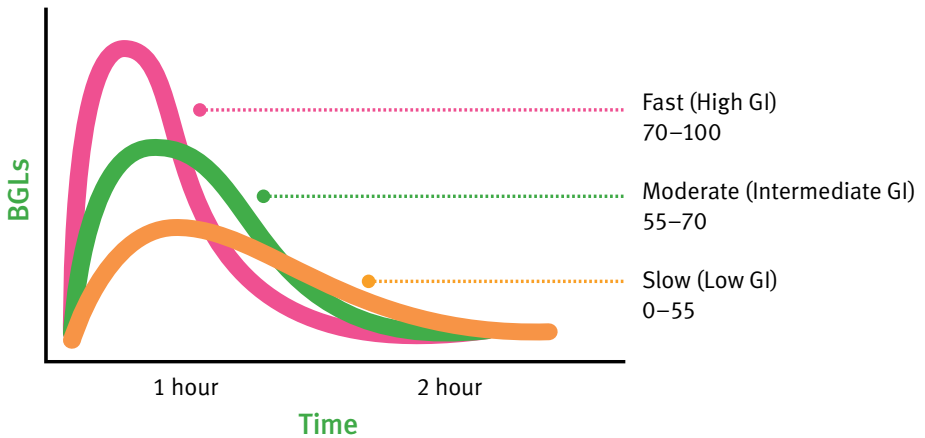


Yoghurt

*Severe dietary restriction is not recommended as this can increase the risk of complications and a small baby.*

# The Glycaemic Index (GI)

Carbohydrate foods are broken down at different rates. The Glycaemic Index (GI) is a tool used in working out how carbohydrate foods affect blood glucose levels (BGLs).



- ✿ **High GI carbohydrates** are broken down quickly and cause a high rise in BGLs.
- ✿ **Medium GI carbohydrates** cause a moderate rise in BGLs.
- ✿ **Low GI carbohydrates** are broken down slowly causing a low rise in BGLs.






## Choose carbohydrates that are broken down slowly

	Low GI (slow acting)	Medium GI	High GI (fast acting)
Breads and biscuits	Fruit loaf/raisin bread Oat bran based bread Pumpernickel bread Soy and linseed bread Multigrain bread Vita wheats™ Rich tea biscuits Oatmeal biscuits	Rye bread Crumpets Pita bread Ryvitas™	White bread Wholemeal bread Bagels Puffed crispbreads Water crackers Rice cakes Premium™
Cereals and grains	All Bran™ Guardian™ Porridge Special K™ Doongara rice Pasta	Vita Brits™/Weet Bix™ Nutrigrain™ Just Right™ Mini wheats™ Basmati rice Taco shells	Rice bubbles Corn flakes Sultana Bran™ Cheerios™ Calrose and long grain White rice Brown rice
Milk products	Yoghurt Milk Custard Soya milk	Full fat ice-cream	
Fruit	Apple Banana Grapefruit Grapes Kiwi fruit Orange Peach Pear	Sultanas and raisins Raw and canned apricots Mango Paw paw Pineapple Rockmelon	Watermelon Lychee Dried dates
Vegetables	Lentils Legumes Sweet potato/yam Sweet corn		Broad Beans White potato Parsnip

# Healthy eating guidelines for pregnancy

It is important to eat a healthy diet to meet your nutritional needs during pregnancy, especially when you have gestational diabetes. Choose a variety of foods from each of the food groups to ensure your baby is receiving adequate nutrients for growth and development.

## Recommendations during pregnancy are:

Food group	Number of food serves per day	1 serve
 <p>Breads and cereals</p>	8–12	1 regular thin slice bread 1/2 medium bread roll 1/2 cup cooked rice, pasta or noodles 1/2 cup breakfast cereal flakes or porridge 1/4 cup muesli
 <p>Fruit</p>	4	1 piece medium sized fruit 2 pieces smaller fruit 20 grapes or cherries 1/2 cup juice 1 cup diced/canned fruit 1 1/2 tablespoons sultanas
 <p>Vegetables</p>	5–6	1 medium potato/yam 1/2 medium sweet potato 1 cup lettuce or salad vegies 1/2 cup cooked vegetables
 <p>Meat, fish poultry, nuts and legumes</p>	2	65–100g cooked meat/chicken 80–120g cooked fish 2 small eggs 1/3 cup cooked dried beans, lentils, chick peas, split peas or canned beans 1/3 cup peanuts/almonds
 <p>Dairy</p>	2–3	1 cup milk 40g (2 slices) cheese 200g yoghurt 1 cup custard

If you are feeling hungry after changing your eating habits, talk to your dietitian about foods low in carbohydrates that you can eat freely.

## What about sugar?

- ✿ Small amounts of sugar, jam, and honey have little effect on blood glucose levels.
- ✿ A scrape of jam on grain bread, or a teaspoon of sugar on porridge is suitable.
- ✿ Avoid drinks that are high in sugar such as soft drink and cordial.
- ✿ While small amounts of sugar are acceptable, added sugar and sweet foods should still be limited as part of a healthy eating pattern.
- ✿ Products with artificial sweeteners aspartame (951) (*NutraSweet™*, *Equal™*) and sucralose (955) (*Splenda™*), are used in some diet yoghurts, low joule soft drinks and *Equal™* tablets and may be used in moderation if desired.



# Sample meal plan

This meal plan is to be used as a general guide and may need adjustment to meet your individual needs.

## Breakfast

- ✿ ¼ cup of uncooked rolled oats or muesli with ½ cup low fat milk  
**OR** 2 slices of multigrain bread with avocado, tomato, vegemite, or peanut butter
- ✿ 1 piece of fruit or ½ cup of fruit juice

3–4  
carbohydrate  
portions/exchanges

## Light meal

- ✿ 2 slices of multigrain bread or 1 roll with salad and lean meat, tuna, salmon, chicken, or low fat cheese
- ✿ 1 piece of fruit or 1 tub of low fat yoghurt

3–4  
carbohydrate  
portions/exchanges

## Main meal

- ✿ 100–120g of lean meat, chicken (no skin), or fish with ½ cup of pasta, rice, sweet potato, sweet corn, or potato (lower GI types of rice and starchy vegetables are better choices)
- ✿ add plenty of non-starchy vegetables (all types of vegetables are good, cooked or uncooked – beans, broccoli, cabbage, carrots, cauliflower, peas, silver beet, spinach, and zucchini)
- ✿ ½ cup of tinned fruit with ½ cup of low fat yoghurt or custard

3–4  
carbohydrate  
portions/exchanges

## Snacks

- ✿ 1 piece of fruit
- ✿ 100g of low fat fruit yoghurt
- ✿ 2 multigrain cracker biscuits with a low fat spread
- ✿ 2 wheatmeal or oatmeal biscuits
- ✿ 1 slice of fruit loaf

1–2  
portion/exchanges

## Keep active

- ✿ Physical activity is an important part of any healthy pregnancy.
- ✿ Being physically active helps to lower your blood glucose levels, helping in the management of gestational diabetes. The more muscles used in activity the more glucose you use from the blood.
- ✿ Aim for 30–45 minutes of activity a day. This can be done in shorter periods if you wish such as three 10 minute sessions.
- ✿ There are some medical and obstetric reasons when exercise is not recommended and it is important to know when to stop exercising.
- ✿ Ask your doctor, physiotherapist or midwife for more information on safe exercise in pregnancy.



## Healthy weight gain during pregnancy

The amount of weight you should gain in your pregnancy depends on your pre-pregnancy weight.

- ✿ If you were in the healthy weight range (BMI 19.8–26kg/m<sup>2</sup>) you should aim to gain 11.5–16kg.
- ✿ If you were underweight (BMI <19.8kg/m<sup>2</sup>) you need to gain more – aim for 12.5–18kg.
- ✿ If you were overweight (BMI 26–29kg/m<sup>2</sup>) you don't need to gain as much weight – you should limit your weight gain to 7–11.5kg.
- ✿ If your BMI was greater than 29kg/m<sup>2</sup> you should limit your weight gain to around 6kg.

*Pregnancy is not a time for strict dieting.*

## If you are not gaining enough weight

Inadequate weight gain in pregnancy can lead to a small baby. If you are not gaining enough weight try these ideas to increase your energy intake:

- ✿ Eat three meals a day.
- ✿ Include snacks between meals.
- ✿ Enjoy healthy snack foods such as:
  - fresh fruit
  - nuts and seeds
  - fruit toast
  - yoghurt
  - biscuits and cheese
  - milk drinks.

## If you are gaining too much weight

Excessive weight gain during pregnancy can contribute to problems for the mother such as high blood pressure and poor blood glucose control. Excess weight gain can also make it hard to return to your usual weight after the pregnancy. Pregnancy is not a time for strict dieting, however if you are gaining too much weight try to:

### Limit the amount of fat you eat

- ✿ Reduce your intake of takeaway foods, chips, chocolate, cakes, and biscuits.
- ✿ Decrease the amount of fats you use in cooking.
- ✿ Choose low fat dairy products including milk, yoghurt and cheese.
- ✿ Avoid cream and sour cream.
- ✿ Trim all the fat off your meat before cooking.
- ✿ Remove the skin from chicken.

### Limit high sugar foods

- ✿ Drink water not soft drink or cordial.
- ✿ Use diet or low-joule products in moderation.
- ✿ Fruit juices are also high in sugar, try to limit these.
- ✿ Limit chocolates, lollies and sweets.
- ✿ Have desserts only once a week.

### Choose healthy snack options

### Increase your physical activity

# Have you thought about how you will feed your baby?

## Mothers are designed to breastfeed babies

Breastfeeding is the normal and natural way to feed your baby.

Breastmilk is a complex food. Breastmilk changes to meet the particular needs of each child from the very premature baby to the older toddler. Breastfeeding costs nothing.

## Food for health

Exclusive breastfeeding (i.e. no other food or drinks) is recommended for all babies for the **first six months** of life. Babies should then continue to receive breastmilk (along with complementary food and drink) into the child's second year and beyond.

Research shows that the longer the breastfeeding relationship continues, the greater the positive health effects.

## Breastmilk provides:

- ✿ **Protection for baby** from infections such as ear, stomach, chest and urinary tract, diabetes, obesity, heart disease, some cancers, allergies and asthma.
- ✿ **Protection for mother** from breast and ovarian cancers, osteoporosis and other illnesses.
- ✿ **Healthier communities and environment.**

## Continue a healthy lifestyle after your pregnancy

After the birth of your baby, your blood glucose levels should return to normal. It is recommended that you have another oral glucose tolerance test six weeks after the birth of your baby to ensure that your blood glucose levels have returned to normal. You should also have a fasting glucose test with your GP every year.

Women who have had gestational diabetes are at increased risk of developing type 2 diabetes later on in life. Up to 50% of women who have had gestational diabetes could develop type 2 diabetes within five years or less. This risk is increased if they are overweight or continue to live an unhealthy lifestyle.

### What can I do to reduce the risk?

- ✿ Breastfeeding helps improve your glucose tolerance and also reduces the risk for your baby of developing chronic diseases later in life.
- ✿ Continue to follow a healthy well balanced eating plan with plenty of fruit, vegetables and wholegrain cereals.
- ✿ Choose foods low in saturated fat.
- ✿ Keep physically active.
- ✿ Aim to achieve and maintain a healthy body weight.

# Troubleshooting

*If you have a high blood glucose level it is important to work out why so you can minimise the chance of it happening again. Ask yourself the following questions to help work out why your level might be high.*

## **Did you eat a larger meal than usual (e.g. eating out)?**

- ✿ Check your serve sizes against the sample meal plan.

## **Did you eat too much carbohydrate?**

- ✿ Take care with large serves of bread, pasta and rice – these can increase your levels.

## **Did you have mainly high GI carbohydrate foods at your last meal?**

- ✿ Try to choose slow release carbohydrate, e.g. grain bread in place of white, high fibre cereal rather than low fibre and fresh fruit rather than juice.

## **Did you wait long enough after eating before your test?**

- ✿ Always wait for two (2) hours after eating a meal before testing and delay snacks until just after you test. If you test sooner than two hours or eat again before you test you may have a higher reading than if you waited.

## **Were your hands clean?**

- ✿ Always wash your hands prior to testing, dirty hands can affect your BGL reading.

## **Have you been taking your diabetes medication as prescribed?**

- ✿ If you have been prescribed insulin or other medication to manage your GDM, missing this medication will cause a high BGL reading.

## **Were you active after your meal?**

- ✿ Sitting down immediately after your meal can cause a higher BGL reading than if you do some activity such as a short walk or some housework. Exercise can help to lower your BGLs after a meal.

*If your blood glucose levels are still high after going through the checklist above, check with your dietitian or diabetes educator.*

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