

Your important health information

Healthy eating for gestational diabetes

What is gestational diabetes?

Gestational diabetes occurs in pregnancy due to changes in your hormone levels. Diabetes is a condition where the level of glucose (a type of sugar) in the blood is 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/or low blood glucose levels after birth.

Why is your diet important in gestational diabetes?

Following a healthy eating plan will assist you to:

- provide adequate nutrition for you and your growing baby
- manage weight gain during your pregnancy
- manage your blood glucose levels.

1. 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

Food groups	Number of serves recommended in pregnancy each day	Examples of 1 serve
Fruit	2	1 medium apple, orange 1 cup diced/canned fruit 2 small apricots, plums or only occasionally: 1½ tablespoons sultanas ½ cup fruit juice
Vegetables	5	½ cup cooked or 1 cup raw/salad vegetables
Wholegrain breads and cereals	8 ½	1 slice bread ½ medium roll ¼ cup muesli ½ cup cooked porridge ⅔ cup cereal flakes ½ cup cooked rice, pasta, noodles, quinoa, barley
Reduced fat dairy	2 ½	1 cup milk 2 slices cheese 200g yoghurt
Lean meat or alternatives	3 ½	65g cooked meat 80g cooked chicken 100g cooked fish 2 large eggs 170g tofu 30g nuts, seeds 1 cup cooked legumes/beans such as lentils and chickpeas

Limit: high mercury fish and caffeine.

Avoid: high risk listeria foods and alcohol.

For more information refer to the *Healthy eating in pregnancy* fact sheet provided to you early in your pregnancy.

2. Managing weight gain in pregnancy

Gaining too much weight can make it harder to control your blood glucose levels, increase your risk of having a bigger baby, increase your blood pressure and make it harder to lose weight after you deliver. Gaining too little weight can increase your risk of having a smaller baby and needing to deliver your baby early.

The amount of weight you should gain in your pregnancy depends on your pre-pregnancy weight and body mass index (BMI). You can work out your BMI using the steps below.

Your pre-pregnancy weight _____ kg Your height _____ m.

BMI = weight ÷ (height x height) _____ kg/m².

For example, weight = 60kg height = 1.6m (160cm) **BMI** = 60 ÷ (1.6x1.6) = **23.4kg/m²**.

Recommended weight gain in pregnancy

If your pre-pregnancy BMI was:	Weight gain guide (single pregnancy)	Weight gain guide (twin pregnancy)
less than 18.5kg/m ²	12.5 – 18kg	Speak to your dietitian/doctor
18.5 – 24.9kg/m ²	11.5 – 16kg	17 – 25kg
25 – 29.9kg/m ²	7 – 11.5kg	14 – 23kg
more than 29.9kg/m ²	5 – 9kg	11 – 19kg

3. Managing blood glucose levels

The following recommendations are guidelines to help manage your blood glucose levels.

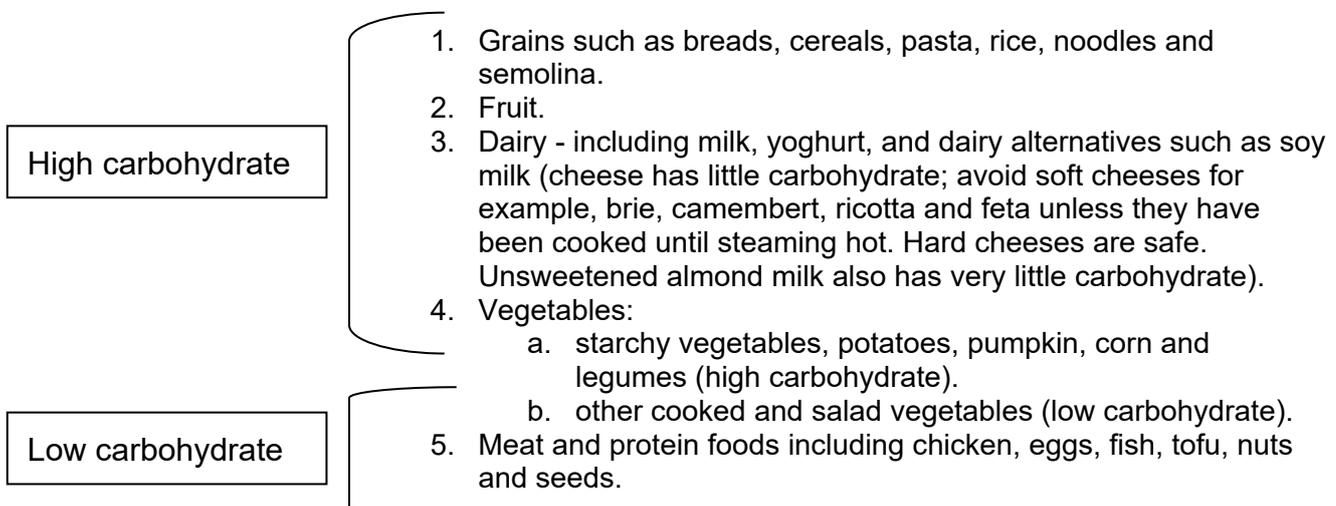
There are two key factors to consider when managing your diabetes with diet:

1. Type of carbohydrate.
2. Amount of carbohydrate.

What are carbohydrates?

Carbohydrates are starches and sugars found in foods. They are broken down to glucose during digestion. Carbohydrates are found in a variety of foods and provide the body with fuel (energy). Many foods that contain carbohydrates also provide fibre, vitamins and minerals.

Carbohydrates are found in many healthy foods across the five food groups. It is important to include these foods in your diet:



Sugar

Carbohydrate foods that don't contain much nutrition include sugar (sucrose), soft drinks, cordials, lollies, cakes, biscuits and chocolate and it is best to limit these foods. Small amounts of sugar for example, one teaspoon in a hot drink, should not affect blood glucose levels much. However larger amounts of sugar, such as in the products mentioned will have more effect on your blood glucose levels.

Artificial sweeteners

Artificial sweeteners contain either no or little carbohydrate. All artificial sweeteners available in Australia have been thoroughly tested and approved by Food Standards Australia New Zealand (FSANZ). They are considered safe. Sweeteners include Aspartame (Equal) (951), Sucralose (Splenda) (955) and Stevia (960) and are also found in artificially sweetened products such as diet soft drinks.

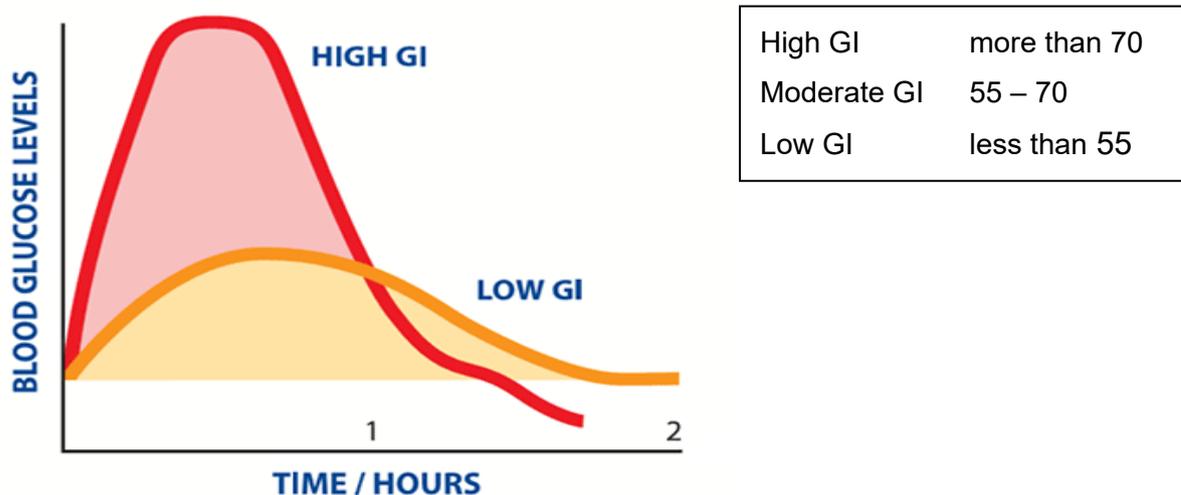
What about fats?

While fat does not affect your blood glucose level in the same way, if eaten in large amounts fats can cause extra weight gain which can make it harder to control your blood glucose levels.

It is recommended that you limit your total amount of fat by reducing your intake of saturated fat. Foods containing saturated fats are fatty and processed meats, fried foods, potato chips, pies, pastries, butter, cream and processed foods. It is recommended that you include healthier fats in your diet such as oily fish, vegetable oils and spreads, nuts and avocados.

What type of carbohydrate foods should I eat?

Different carbohydrate foods break down at different rates. Some break down quickly causing a quick rise in blood glucose levels. Others break down more slowly causing a slower rise. The Glycaemic Index (GI) is a measure of how quickly or slowly a carbohydrate food digests and increases blood glucose levels. Lower GI carbohydrates are the preferred choice for managing your diabetes as they cause a slower rise. Eating mainly low GI carbohydrates can lower your chance of needing insulin. Foods are ranked on a GI scale of 0 – 100.



Carbohydrate foods

The following table is a summary of lower GI and higher GI choices.

Food category	✓ Lower GI	* Higher GI
Bread	<ul style="list-style-type: none"> ✓ Multigrain ✓ Sourdough, sourdough rye ✓ Pumpernickel ✓ Wholemeal pita, chapatti ✓ Fruit and grain ✓ Low GI white ✓ Corn tortilla wraps 	<ul style="list-style-type: none"> * White * Wholemeal * Bagels and Turkish * Crumpets * Dark and light rye * White Lebanese bread * Naan
Breakfast cereals	<ul style="list-style-type: none"> ✓ Untoasted muesli ✓ Rolled oats, steel cut oats (porridge) ✓ All-Bran, Guardian ✓ Special K ✓ Weet-Bix blends ✓ Carman's Deluxe gluten free muesli ✓ Up & Go 	<ul style="list-style-type: none"> * Coco-Pops, Rice Bubbles * Instant oats (porridge) * Rice porridge * Cornflakes * Puffed wheat * Froot Loops
Rice	<ul style="list-style-type: none"> ✓ Basmati (brown and white) ✓ Doongara ✓ Mahatma long grain ✓ Wild ✓ SunRice low GI white and brown ✓ Red or black rice 	<ul style="list-style-type: none"> * Jasmine * White * Brown
Pasta and noodles	<ul style="list-style-type: none"> ✓ Wheat pasta (white and wholemeal) ✓ All noodles 	<ul style="list-style-type: none"> * Potato gnocchi * Corn and rice pasta
Grains	<ul style="list-style-type: none"> ✓ Bulghur ✓ Barley ✓ Buckwheat ✓ Quinoa ✓ Semolina ✓ Pearl cous cous 	<ul style="list-style-type: none"> * Cous cous * Polenta * Millet
Legumes and lentils	<ul style="list-style-type: none"> ✓ All dried and canned, such as kidney beans, chickpeas, brown lentils and baked beans 	
Starchy vegetables	<ul style="list-style-type: none"> ✓ Nicola ✓ Sweet potato (orange) ✓ Cassava, taro, yam ✓ Butternut pumpkin ✓ Corn 	<ul style="list-style-type: none"> * White potato * Sweet potato (purple) * Pumpkin (varieties other than butternut)
Fruit	<ul style="list-style-type: none"> ✓ Apples, apricot, banana, berries ✓ Cherries, grapefruit, grapes ✓ Orange, kiwifruit, mandarin, mango ✓ Nectarines, peaches ✓ Pear, plums ✓ Passionfruit, pomegranate, guava 	<ul style="list-style-type: none"> * Rockmelon, watermelon * Lychee (canned) <p>Note: although fruit juice and dried fruit have a lower GI, consume only small amounts. Fresh fruit is preferable.</p>
Milk and yoghurt	<ul style="list-style-type: none"> ✓ Dairy milk and yoghurt ✓ Soy milk and yoghurt <p>Note: choose mostly low fat varieties</p>	<ul style="list-style-type: none"> * Sweetened condensed milk * Rice milk * Oat milk
Dry biscuits	<ul style="list-style-type: none"> ✓ Vita Weat 9 grain ✓ Ryvita multigrain 	<ul style="list-style-type: none"> * Rice crackers and cakes * Puffed corn thins/crispbreads * Water crackers * Sao/pretzels
Extras	<ul style="list-style-type: none"> ✓ Arnott's Snack Right biscuits ✓ Low fat ice cream and custard ✓ Milo 	<ul style="list-style-type: none"> * Plain sweet biscuits * Cakes

What amount of carbohydrate should I eat?

You should eat carbohydrates at each meal and snack. The amount eaten should be spread evenly between three moderately sized meals and three small snacks.

The amount of carbohydrates recommended below is needed to meet your daily requirements in pregnancy. Not all foods listed are low GI; where possible eat low GI carbohydrates.

Aim to eat three portions of carbohydrate (45g) at each main meal and one to two portions (15–30g) for snacks. This is a total of approximately 180 – 225g carbohydrate per day.

Carbohydrate food	1 portion (approximately 15g carbohydrate)	
Breads	1 slice bread/fruit bread 1 small chapatti ½ English muffin 2 tablespoons bread crumbs 1 small dinner roll	½ bread roll 1 mountain bread ⅔ small naan bread 1 round crumpet ⅓ large pita bread
Cereals	½ cup cereal 1½ Weet-Bix	2 tablespoons/¼ cup muesli/raw oats ½ cup cooked oats
Pasta and noodles	½ cup cooked wholemeal pasta ½ cup cooked noodles	⅓ cup cooked white pasta 1 small lasagne sheet
Rice and grains	⅓ cup cooked rice/couscous/bulghur/quinoa	
Legumes	½ cup canned baked beans ½ cup cooked chickpeas/kidney beans/canned 3 beans mix	¾ cup cooked lentils
Starchy vegetables	1 small potato ½ cup corn kernels ½ cup mashed potato	½ cup boiled sweet potato 1 cup boiled pumpkin 1 small corn cob
Fruit	½ large banana 1 medium apple, orange, pear, peach ½ cup grapes 3 med apricots 2 small mandarins/kiwi ½ mango 1½ cups melon/pineapple 25 small strawberries 8 extra large strawberries 2 medium nectarines/plums	6 dried apricots/prunes 8 passionfruit 1 tablespoon sultanas 1 whole pomegranate/grapefruit 2 guava 4 dates ½ cup fruit juice ½ cup tinned fruit 1 cup berries/cherries 1 small banana
Milk	250ml milk (all types)	
Yoghurt	200g plain, low fat yoghurt 1 scoop frozen yoghurt	100g fruit yoghurt (always check yoghurt labels)
Other dairy	2 small scoops low fat ice cream	⅓ cup low fat custard
Biscuits	6 small Salada/Savoy 2 Ryvita 4 Vita-Weat 3 Sao	3 cups air popped popcorn 10 rice crackers 1 small muesli bar 2 Snack Right fruit slice biscuits
Flour	2 tablespoons white/wholemeal	

What if I still feel hungry?

If you still feel hungry add foods that are low in carbohydrate to your meals and snacks. Refer to the table on page one for guidelines on serve recommendations for each food group. Count the foods below as 'zero portions' of carbohydrate.

Low carbohydrate foods:

- Non starchy vegetables (refer to page two)
- Meat, chicken, fish
- Eggs
- Nuts, seeds
- Tofu
- Cheese
- Avocado

What if my blood sugars are still high?

In some instances 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 as severe dietary restriction may result in an increased risk of pregnancy complications. Some women need a little extra help to manage blood glucose levels and may require insulin.

Sample meal plan

Breakfast

- ½ cup untoasted muesli or 1 cup Guardian/All Bran + 250ml low fat milk **or**
- 2 slices grain/sourdough toast spread with avocado or poly/monounsaturated margarine + tub of low fat yoghurt **plus**
- Tea/coffee – with small amount low fat milk, no sugar (ideally). Equal ok.

Morning tea (snack)

- 1 serve fruit + 4 Vita-Weat with low fat cheese

Lunch

- 2 slices of bread **or** 1 medium bread roll **or** ⅔ cup cooked basmati rice **plus**
- plenty of salad or non-starchy vegetables (½ plate) **plus**
- lean meat or tuna or salmon or skinless chicken or egg **plus**
- 1 serve fruit

Afternoon tea (snack)

- 1 slice wholegrain bread + ½ cup baked beans

Dinner

- 1 cup cooked basmati rice **or** 1-1½ cups cooked pasta **or** 2 medium potatoes **plus**
- plenty of salad or non starchy vegetables (½ plate) **plus**
- lean meat or skinless chicken or tofu

Supper (snack)

- 250ml low fat milk + 30g unsalted nuts

Vegetarian sample meal plan

Breakfast

- ½ cup untoasted muesli or 1 cup Guardian/All Bran + 250ml low fat milk/soy milk **or**
- 2 slices grain/sourdough toast spread with avocado or poly/monounsaturated margarine + tub of low fat yoghurt **plus**
- 1 egg **or** 15g nuts
- Tea/coffee – with small amount low fat milk, no sugar (ideally). Equal ok.

Morning tea (snack)

- 1 serve fruit + 4 Vita-Weat with low fat cheese

Lunch

- 2 slices of bread **or** 1 medium bread roll **or** ⅔ cup cooked basmati rice **plus**
- plenty of salad or non-starchy vegetables (½ plate) **plus**
- egg **or** 85g tofu **or** 15g nuts/seeds **plus**
- 1 serve fruit

Afternoon tea (snack)

- 1 slice wholegrain bread + ½ cup baked beans

Dinner

- ⅔ cup cooked basmati rice **or** ⅔ - 1 cup cooked pasta **or** 2 small potatoes **or** 2 small chapatti **plus**
- ¾ cup cooked lentils **or** ½ cup cooked chickpeas/kidney beans **plus**
- plenty of salad or non starchy vegetables (½ plate)

Supper (snack)

- 250ml low fat milk/soy milk + 30g unsalted nuts

Test your blood glucose levels:

- Before you eat/drink anything in the morning. Water is ok.
- Two hours after each main meal; breakfast, lunch and dinner. Do not eat/drink anything other than water in these two hours.
- You do not need to test after your snacks.

What can I drink?

- Choose mainly water, plain mineral and soda water-add fresh lemon or lime for flavour.
- Low fat milk provides a good source of calcium and protein. Remember that milk contains carbohydrate and needs to be included in your daily carbohydrate serves.
- Tea, coffee, diet soft drink and diet cordials can be consumed in moderation.

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 and regular exercise can reduce this risk. For more information on how to reduce your risk, discuss with your general practitioner or health professional.

Breastfeeding

Exclusive breastfeeding is recommended during the first six months of life and longer where possible. It provides the best start for your baby and can decrease your baby's risk of developing obesity, diabetes and heart disease. Breastfeeding can also help you return to your pre-pregnancy weight and may also reduce your risk of developing type 2 diabetes.

It is recommended you continue to take a supplement containing 150 micrograms of iodine each day until you stop breastfeeding. It is also recommended you give your baby a Vitamin D supplement of 400 units each day for at least the first six months while you are breastfeeding.

If you require support with breastfeeding you can contact lactation consultants at:

- **Mercy Hospital for Women**
Phone: 03 8458 4677
- **Werribee Mercy Hospital**
Phone: 03 8754 3407

Other breastfeeding support services:

- The Australian Breastfeeding Association 24 hour helpline, Phone: 1800 686 268
- Maternal and Child Health Helpline, Phone: 13 22 29
- Private Lactation Consultants, www.lcanz.org

Useful links

The Baker Heart and Diabetes Institute	www.bakeridi.edu.au
Glycemic Index Database, The University of Sydney	www.glycemicindex.com
Gestational Diabetes Recipes	http://gestationaldiabetesrecipes.com/
Diabetes Victoria	www.diabetesvic.org.au
Dietitians Association of Australia	www.daa.asn.au
Glycemic Index Foundation	www.gisymbol.com
Diabetes Australia – recipes*	www.diabetesaustralia.com.au/recipes

*Note: these are not specific to pregnancy

Further Information.

If you have any questions regarding this information, please contact:

Dietitian

Mercy Hospital for Women
Phone: 03 8458 4165

Werribee Mercy Hospital
Phone: 03 8754 3150

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This document provides general information only and is not intended to replace advice about your health from a qualified practitioner. If you are concerned about your health, you should seek advice from a qualified practitioner.