

Food Choices for Gestational Diabetes

Healthy eating for Gestational Diabetes includes a wide variety of nutritious foods that are **low in fat, high in fibre and low glycaemic index** – in the **right quantities**.

This fact sheet will cover the following areas:

- Section one: Carbohydrate foods
- Section two: Type of carbohydrate
- Section three: Good nutrition for you and your baby
- Section four : Physical Activity
- Section five: Control your weight
- Section six: Trouble shooting blood glucose levels
- Section seven: Prevention of type 2 diabetes

SECTION ONE: Carbohydrate Foods

High carbohydrate foods are essential to include as part of your eating plan because they give you and your baby energy, so avoiding carbohydrates is not an option. All foods that are high in carbohydrate, (eg: breads and cereals) will be digested and broken down to glucose. This glucose then goes into your blood stream. This is what you are testing when you measure your blood glucose level (BGL). The carbohydrate content of the foods you eat is one factor that will affect your BGL results. It is important to think about **how much** carbohydrate you eat at one time as well as the **type** of carbohydrate.

Foods that are high in carbohydrates

Healthy Carbohydrate Choices	Unhealthy Carbohydrates Choices
Breads and cereals Rice, pasta and noodles Breakfast cereals Starchy vegetables eg: potato, sweet potato, corn, parsnip Legumes eg: chick peas, lentils, baked beans All fruits and fruit juices Milk and yoghurt	Chocolate, lollies Cakes and biscuits Some varieties of yoghurts and ice-cream Jam, honey and sugar Soft drink and cordials

Healthy foods that are low in carbohydrates

Low Starch Vegetables	Protein Foods
Asian greens, broccoli, brussel sprouts capsicum, cauliflower, celery, chilli, cucumber eggplant, green beans, green leafy vegetables eg: spinach, garlic, ginger, lettuce (all types), mushrooms, okra, onions, radish, sprouts, squash, tomato, zucchini,	All types of seafood All types of nuts and seeds Beef, lamb, chicken, pork Cheese Eggs

AMOUNT AND SPREAD OF CARBOHYDRATE

The exact amount of carbohydrate you can tolerate will be different for every person. You will be able to determine how much you can tolerate at one time by measuring your blood glucose levels two hours after your meals, your glucose levels should not rise above 7mmol/l .

It is recommended that you include carbohydrate with breakfast, lunch, dinner and snacks. A good guide is about 45 gms of carbohydrate at meals and about 15 gms of carbohydrate at snacks. A serve of cereal or starchy vegetables contains approximately 30 gms of carbohydrate and a serve of fruit contains approximately 15 gms of carbohydrate.

The exact carbohydrate content of packaged foods can be found on the nutritional panels of packaged foods and you may also need to ask your dietitian for a more extensive list of the carbohydrate content of fresh foods.

SECTION TWO: TYPE OF CARBOHYDRATE

In order to know which of these high carbohydrate foods are better choices for your BGL we use the Glycaemic Index or GI. The GI tells us the degree to which the carbohydrate in a food will affect the amount of glucose in your blood. To make it easy, the researchers have given all high carbohydrate foods a number from 0 – 100. This number is the Glycaemic Index of the food or the GI. The higher the GI of a food, the bigger the rise in your BGL. These foods are known as high GI foods and should only be eaten in small amounts. On the other hand, the lower the GI of a food, the smaller the rise in the BGL. These foods are known as low or medium GI and are better choices for diabetes. However it is important to realize even if you select low GI foods your blood glucose level could rise if you eat too much of these foods.

How will choosing low GI foods help me?

- It will prevent large fluctuations in your blood glucose levels and make it easier for you to reach your target ranges
- It will help to make you feel fuller for longer and reduce hunger
- It will help you to control your weight

The following table is a guide to high, medium and low GI choices for each of the food groups. It is not a complete list. If you need the GI of a food that is not listed you can either purchase 'The New Glucose Revolution' by Prof Jennie Brand Miller, Ms Kaye Foster-Powell and Assoc Prof Stephen Colagiuri or visit the website at www.glycemicindex.com which has a database.

Low GI (less than 55)	Medium GI (56– 69)	High GI (higher than 70)
Breads and crackers: Burgen varieties, Tip top 9 grain, sour dough, Vogel's honey and oat, Fruit and spice loaf, Bakers Delight high fibre Lo GI, Bakers Delight Whole meal Country grain Country Life Bakery white gluten free, tortilla, high-calcium cracker biscuits	Rye bread, whole meal pita bread, crumpets, white hamburger bun, tacos, Wonder White low GI sandwich bread, Tip Top UP EnerGI, Vita Wheats, stoned wheat Thins, cream cracker biscuit, Ryvitas	White bread, whole meal bread, Turkish bread, English muffin, Lebanese bread, pikelets, baguette, flat bread, sao crackers, water crackers, rice crackers, soda crackers, puffed crisp bread, chapatti, melba toast, Kavali Norwegian cripbread , Corn thins, rice cakes
Breakfast Cereals: All Bran, All Bran Fruit 'n' Oats, Guardian, Special K*, Soyvana, porridge (made with whole oats), rice bran, untoasted muesli, Sustain	Healthwise, Weetbix, Just Right, Mini Wheats (whole wheat), Shredded Wheat, Vita Brits	Bran Flakes, Cheerios, Coco Pops, Cornflakes, Fruity Bix, Honey Smacks, Rice bubbles, Sultana Bran, Lite-Bix, instant porridge
Grains : Barley, pasta buckwheat, noodles, bulgur, semolina, Sunrice Clever Rice, Sushi (California rolls), Moolgiri rice	Couscous,.basmati rice Udon noodles,Doongara Rice, Wild Rice, Sunrice medium grain brown rice in 90 secs, Aborio rice, polenta, vermicelli	Calrose rice, jasmine rice, puffed rice cakes, Sunrice sushi rice, rice pasta
Legumes: Kidney beans, chick peas, lentils, butter beans, navy beans, split peas etc, baked beans	Broad beans	
Starchy Vegetables: Sweet corn, green peas	Sweet potato New potatoes (canned)	Potatoes (Nadine, Pontiac, Desiree),
Fruit: Peach, apple, pear, plums, banana, oranges, grapes, kiwi fruit, mango, dried apricots, strawberries, prunes dates (Arabic), berries	Sultanas, raisins, apricots, paw paw, rock melon, pineapple, dates (Israeli)	Dates (Australian) , watermelon
Dairy Foods: Milk (all varieties), soy milk, low fat yoghurt (all plain and fruit varieties), low fat ice cream, fruche, Fromage Frais, Le Rice, custard	Vitari frozen fruit dessert	
Cakes and Biscuits: Arnotts Spicy Fruit Rolls and Snack Right Fruit Slice, Richtea biscuits, Freedom Food cookies, plain sponge, Big Sister fruit cake	Digestive biscuits, Shredded wheaten meal	Lamingtons, doughnuts, Morning coffee
Drinks: Low fat flavoured milk		Lucozade, Gatorade, Sports Plus.
Extras: 100% fruit jam, Honey (yellow box, stringy bark, red gum, iron bark, bush), Hummus	Table sugar, pure capilano honey	Breakfast bars, jelly beans, lollies, pretzels, pop tarts, roll ups popcorn, twisties, blended capilano honey, real fruit bars,

Remember that if you are not able to control your BGLs then you need to contact your Accredited Practising Dietitian or Credentialed Diabetes Educator.







SECTION THREE: HEALTHY EATING

Following a healthy eating plan will help to:

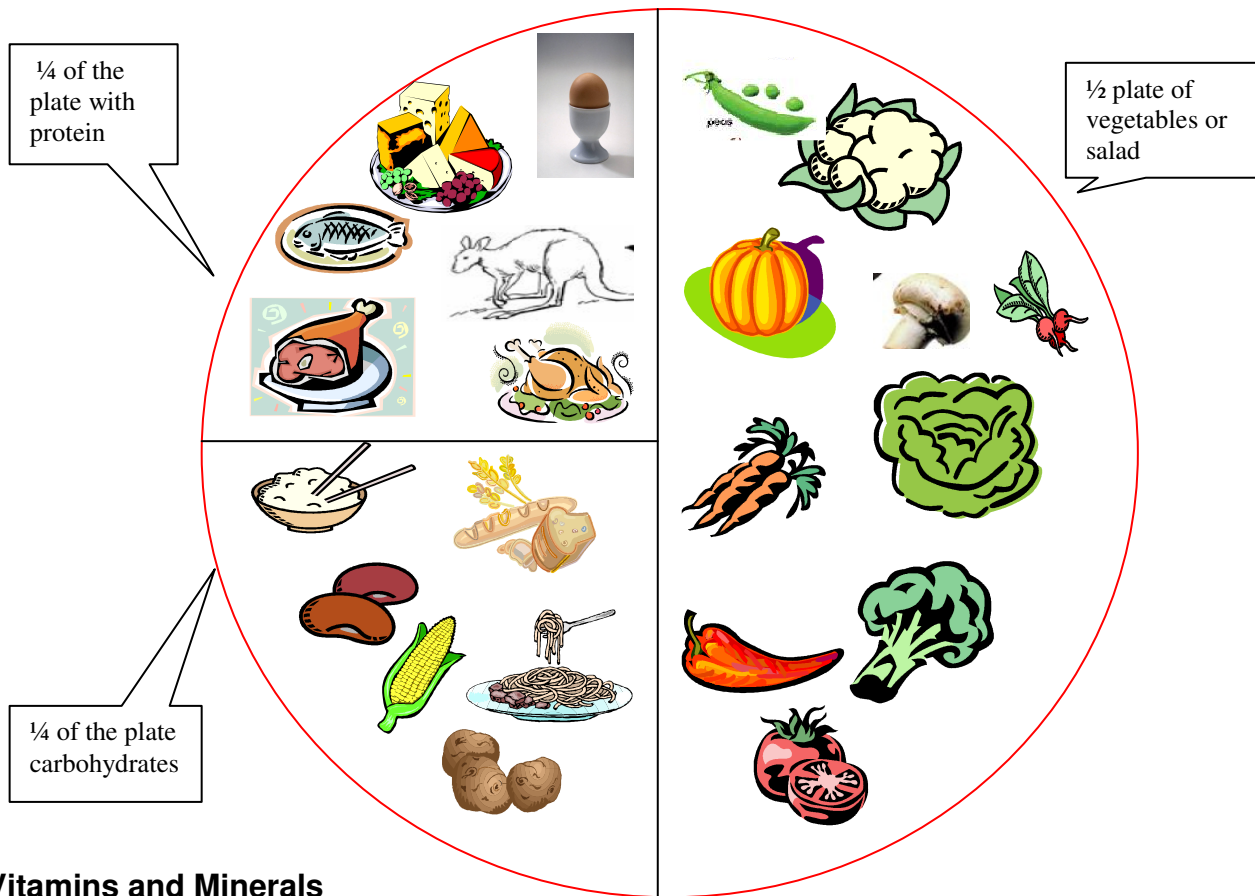
- Manage your blood glucose levels within the target range advised by your doctor
- Provide adequate nutrition for you and your growing baby
- Achieve appropriate weight changes during your pregnancy

Most women are diagnosed with Gestational Diabetes around 28 weeks, so the following nutrition advice is based on the third trimester of pregnancy – the time for growth. It is important that you do not try and manage your diabetes by cutting out essential foods groups that are important during this time. You also need to make sure you are eating enough food to give you and your baby the nutrients you both need.

This table gives you an idea of how many 'serves' from each of the food groups you need to eat. Your Accredited Practising Dietitian (APD) can give you specific recommendations.

Food Group	One Serve	Average recommended serves/day for pregnancy
Breads, cereals, rice, pasta noodles 	2 thin slices bread 1 medium bread roll 1 cup cooked pasta/rice/noodles 1 cup cooked porridge, 1 1/3 cup cereal flakes 1/2 cup untoasted muesli	4 to 6
Light vegetables 	75g OR 1/2 cup cooked vegetables 1 cup salad vegetables	4 - 6
Starchy vegetables, legumes 	75g OR 1/2 cup cooked dried beans, peas or lentils 1 medium potato 2 medium pieces of sweet potato 1 small corn on the cob	1 - 2
Fruit 	1 medium fruit, eg apple, banana, pear 2-3 small fruits, eg apricots, plums 1 cup diced pieces or canned fruit 120 mls fruit juice Dried fruit, eg 8 apricot halves 1 cup grapes	4
Milk, Yoghurt, Cheese (choose low fat options) 	1 cup (250ml) fresh, long-life or reconstituted dried milk 1 cup (250ml) calcium fortified soy milk 40g (2 slices) cheese 200g (1 small carton) yoghurt 1 cup (250ml) low fat custard	3
Meat & alternatives (lean/low fat varieties) 	65-100g cooked lean meat, chicken, 1/2 cup lean mince, 2 slices roast meat 80-120g cooked fish fillet 1/2 cup cooked (dried) beans, lentils, chick peas, split peas or canned beans 2 small eggs 1/3 cup nuts, 1/4 cup seeds	1 1/2 - 2

It is important to eat balanced meals which include protein, carbohydrate and vegetables at each meal. The diagram of the plate below illustrates how carbohydrate, protein and salad or vegetables should be distributed on your plate.



Vitamins and Minerals

The following vitamins and minerals are particularly important during the third trimester:

Calcium – vital for the baby’s bone and tooth formation

Iron – Important in making the extra blood needed for you and your baby

Folate – Plays a vital role in the development of a healthy baby

Vitamin C – Helps with iron absorption. Helps with baby’s gum, bone and tooth formation.

Eating the recommended serves per day will give you large amounts of these nutrients but you may also need a supplement. Please discuss this with your Doctor or Accredited Practising Dietitian.

Artificial Sweeteners

Small amounts of artificial sweeteners can be used safely in pregnancy. These include

- Equal (also known as aspartame, 951 or nutrasweet)
- Splenda (also known as sucralose, 955)
- Acesulphame Potassium, 950
- Cyclamate, 952

Saccharin, 954 is not recommended in pregnancy

As with all pregnancy advice, you should still continue to avoid the following:

- Raspberry leaf tea, Pennyroyal and Comfrey
- Alcohol
- High risk Listeria foods (soft cheeses, processed meats, unwashed fruit and vegetables)

Limit the following mercury containing fish to once per fortnight:

- Deep sea perch
- Shark
- Bill fish (Broadbill, Swordfish, Marlin)
- 'Fish and chip shop' fish
- Orange Roughy
- Catfish

SECTION FOUR : PHYSICAL ACTIVITY

Managing blood glucose levels in gestational diabetes is not just about what you eat. One of the most effective (and underrated) ways of helping BGLs during pregnancy is to be as physically active as possible. Being physically active during pregnancy has other benefits apart from helping to control your BGLs; it can:

- Decrease fatigue and help with stress management
- Increase your endurance and strengthen your muscles
- Help to relieve back pressure
- Improve posture and balance
- Improve circulation and decrease blood pressure
- Help with constipation
- Help your body to prepare for labour
- Improve your self image
- Helps with weight management

Physical activity recommended during pregnancy:

- Walking (briskly, if possible) – aim for at least 30 minutes
- Swimming
- Low impact exercise groups, tailored to pregnancy
- Yoga classes, tailored to pregnancy

Be Safe!

- Be careful not to overheat
- Drink plenty of water

SECTION FIVE: CONTROL YOUR WEIGHT

A suitable weight gain depends on what weight you were before pregnancy and how quickly you gain weight during the pregnancy. As a guide, you should aim to gain 10 – 13 kg over the course of your pregnancy. You should expect to gain most of your weight in the third trimester.

If you were overweight before pregnancy, you should try to keep the weight gain to less than 10 kg.

If you were underweight before pregnancy, you may need to gain more than the 10 – 13 kg.

Pregnancy is NOT the time for trying to start 'dieting'. However changes in your eating habits after developing gestational diabetes may result in some weight loss. Your Accredited Practising Dietitian can address any concerns you have about your weight gain and help you with a meal plan to meet the above goals.

Remember that breastfeeding will assist you in returning to your pre-pregnant weight and in achieving your healthy weight.

SECTION SIX: TROUBLESHOOTING BLOOD GLUCOSE LEVELS:

If your blood sugar levels are above target, you need to ask yourself the following questions

- **Did you eat a larger meal than usual?**
- **Was your meal too high in carbohydrates?**
- **Did you select the correct type of carbohydrate, ie low GI carbohydrates?**
- **Did you wait 2 hours before checking your glucose levels?**
- **Have you been more or less active than usual?**
- **Is your testing technique correct?**
- **Are your hands clean?**
- **Are you under any emotional or physical stress?**
- **Do you have a fever or are you ill?**
- **Check your meter with your pharmacist or diabetes educator**

SECTION SEVEN: PREVENTION OF TYPE 2 DIABETES

Women who have developed Gestational Diabetes once, have 40% risk of developing Gestational Diabetes in subsequent pregnancies and 50% risk of developing Diabetes in the next twenty years.

Some practical suggestions to help you maintain a healthy weight:

- **Ensure that you eat plenty of vegetables, legumes and fruits (aim for 5 serves of vegetables per day and 2 serves of fresh fruit)**
- **Eat plenty of cereals (including breads, pasta and noodles) especially wholegrain and unrefined**
- **Select low glycaemic index carbohydrates**
- **Include lean meat, fish, poultry and/or alternatives**
- **Include milk, yoghurts and cheese and /or alternatives (reduced fat varieties should be chosen where possible)**
- **Limit your fat intake, especially saturated fat**
- **Eat regular meals and control your serving sizes**
- **Drink plenty of water**
- **Limit your alcohol intake**
- **Consume only small amounts of sugar and foods containing added sugar**
- **Exercise regularly**

Ensure that your GP or Obstetrician repeats your glucose tolerance test 6 weeks post natal