

# Gestational Diabetes

## What is gestational diabetes?

Gestational diabetes mellitus (GDM) only occurs during pregnancy and usually goes away after the baby is born.

GDM is a condition in which the body is unable to control the blood glucose (sugar) level. The hormone insulin is responsible for allowing the glucose in the blood to enter the cells of the body and to use it as a source of fuel. GDM occurs because the body is resistance to its own insulin, which is known as insulin resistance, and leads to higher blood glucose levels (BGLs).

## Who is at risk of developing gestational diabetes?



- Women over 30 years of age;
- Being overweight, particularly around the waist;
- Family history of type 2 diabetes;
- Women from certain ethnic backgrounds, particularly Asian, Indian, Polynesian, Southern European & people from the Middle East;
- Indigenous Australians and Torres Strait Islanders.

## “Why does this happen?”

During pregnancy, the mother's energy needs increase to support the development of the baby. To help the baby grow and develop, the placenta produces hormones that promote this. A number of factors, including the hormones produced by the placenta, can block the action of the mother's insulin, resulting in insulin resistance. Insulin needs during pregnancy can be two to three times greater than the non-pregnant state. Overall, if the pancreas is unable to cope with the demands of the extra insulin required

during pregnancy higher BGLs result. When this occurs, the person is said to have GDM.

### **“What about my baby?”**

GDM usually appears around the sixth month (24<sup>th</sup>-28<sup>th</sup> week) of pregnancy. When GDM develops the mother's BGL increases and the excess glucose crosses the placenta to the baby. This high level of glucose in the baby's blood stimulates the baby's pancreas to produce extra insulin. This extra insulin promotes growth and the laying down of extra fat. The result of this is a larger baby which may cause problems during delivery and sometimes may lead to the mother requiring a Caesarean section.

When the mother's BGLs are well controlled, the likelihood of a large baby and potential problems during labour is greatly reduced.

### **Treatment of gestational diabetes**

#### **Physical activity**

It is important that you check with your doctor before starting or continuing with any form of physical activity. Regular physical activity, such as a 10-15 minute walk after each meal, is very important and can help reduce the post-meal blood sugar level. Physical activity is also important during pregnancy because it helps you keep fit.

#### **Dietary management**

The initial steps towards the management of GDM relates to food choices. Women with GDM are encouraged to eat:

- a variety of food and drink plenty of water during pregnancy;
- DO NOT SKIP MEALS. Always have 3 moderately-sized meals and 2 to 3 snacks rather than 3 large meals each day. Keep meals and snacks of similar size from day-to-day;
- foods high in fibre and low in fat, particularly saturated fats;
- carbohydrates coming from grain breads, pasta, rice, fruits and vegetables, and from low-fat milk and yoghurt.

It is recommended to see a dietitian who will assess your current food intake and suggest appropriate changes to help manage GDM until the baby is delivered.

#### **Monitoring your blood glucose levels**

During the remainder of your pregnancy, your doctor will recommend that you monitor your BGLs. Regular monitoring of your BGL is essential to help your doctor assess and change treatment, if necessary. A Diabetes Nurse Educator will assist you with learning how to monitor your BGLs.

It is important to check your BGLs four times a day. That is, testing before breakfast (fasting BGL) and two hours after each meal (breakfast, lunch and dinner). The recommended fasting BGL is less than or equal to 5.5 mmol/L (=5.5 mmol/L) and the two hour post-meal BGL is less than 7 mmol/L (<7 mmol/L)\*. The two hours commences at the beginning of the meal (eg., if you have breakfast about 8am you will test your BGL at 10am). The number of tests may decrease to two or three times a day, depending on how well the BGLs are controlled. Testing will cease once the baby has been delivered and the mother has returned to eating solid foods.

On occasions dietary management alone is not enough to control the BGLs and your doctor will commence you on insulin injections to help bring the BGLs within the above recommended range. If you have three BGLs greater than the recommended levels in a week, it is recommended that you contact your Diabetes Specialist for further advice. Currently tablets used to treat type 2 diabetes are not recommended during pregnancy but at present trials are in progress and this may change in the near future.

### **After the birth of the baby**

Usually the BGLs return to normal after the birth of the baby but your doctor will send you to have another Oral Glucose Tolerance Test (OGTT) about two months after the birth of your baby.

It is recommended to continue with lifestyle changes after the baby is born because of the increased risk (50% chance) of developing type 2 diabetes in the next 15-20 years.



#### **After pregnancy it is important to:**

1. be physically active to help with weight control. Thirty minutes or more of moderate intensity per day is recommended;
2. maintain a healthy eating plan by;
  - ? reducing your fat intake, particularly saturated fats
  - ? increasing your fibre intake by choosing grainy breads and wholegrain cereals, fruits and vegetables
  - ? having regular meals and do not skip meals
3. reduce your weight, particularly around the waist. Consult a dietitian for further assistance.
4. have your fasting BGL check one-to-two yearly by your doctor. An OGTT may be necessary if your two month post-pregnancy blood test shows impaired glucose tolerance.

### **Future pregnancies**

GDM may occur in future pregnancies but this is not always the case.

## SAMPLE HEALTHY EATING PLAN

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| <p><b>Breakfast</b></p>                            | <p>1 fresh fruit or a small glass of 100% fruit juice<br/> <u>PLUS</u><br/>                     1 bowl high-fibre breakfast cereal (eg., Kellogg's® Guardian®) and low- fat milk<br/> <u>OR</u><br/>                     2 slice of multigrain toast with scrape of margarine and jam, honey or Vegemite®, a slice of low-fat cheese and grilled tomato, an egg (low-fat cooking, ie., scrambled, poached or boiled) or fresh cottage or ricotta cheese</p> <p>Tea/coffee with low fat milk (if desired)</p>   |
| <p><b>Lunch and Dinner</b></p>                     | <p>Optional: a bowl of soup (eg., vegetable) or broth<br/> <u>AND</u><br/>                     1 multigrain sandwich (eg., fresh lean processed or cooked meat and salad filling) with a 200g tub of low-fat flavoured yoghurt or fresh fruit (1 serve)<br/> <u>OR</u><br/>                     Meat, fish, chicken or legumes (ie., dried or canned beans) and vegetables or salad (low-fat dressing)<br/>                     1-2 slices of multigrain bread<br/> <u>OR</u><br/>                     Meat, fish, chicken or legumes and vegetables<br/>                     1 cup cooked rice or 1½ cup cooked pasta or noodles<br/> <u>AND</u><br/>                     1 serve fresh or canned fruit in natural juice (drained) OR a tub (200g) of yoghurt</p> |
| <p><b>Morning-tea, Afternoon-tea or Supper</b></p> | <p>Examples:</p> <ul style="list-style-type: none"> <li>▪ A serve of fruit (eg., an apple)</li> <li>▪ 1 slice of multigrain or fruit bread or toast</li> <li>▪ 1 tub of low-fat plain or flavoured yoghurt</li> <li>▪ 1 glass of milk (Low-fat milk), plain or with 1-2 tsp Milo®</li> <li>▪ 2-3 Arnott's® Snack Right or fruit-filled biscuits</li> <li>▪ a handful (~40g) nuts, preferably unsalted</li> </ul>   |

\* The Australasian Diabetes in Pregnancy Society (ADIPS) Gestational Diabetes Management Guidelines (1999).

**Baker IDI Heart and Diabetes Institute**  
 Level 4, The Alfred Centre, 99 Commercial Road, Melbourne,  
 Vic 3004 Australia  
 T (03) 8532 1800 F (03) 8532 1899  
 W [www.bakeridi.edu.au](http://www.bakeridi.edu.au)

