

Gestational Diabetes Mellitus (GDM)

Tena koutou katoa, Kia orana, Talofa lava, Malo e lelei, Fakaalofa lahi atu, Taloha
Ni, Ni Sa Bula Vinaka,
Greetings and Welcome to National Women's

Gestational Diabetes

If you have been diagnosed with Gestational Diabetes you probably have many questions. This pamphlet will help you answer some of the more commonly asked questions about this condition.

Q What is Gestational Diabetes?

A Gestational Diabetes (GDM) is defined as diabetes which is diagnosed in pregnancy. It is a fairly common complication of pregnancy, is usually symptom free and is diagnosed during routine screening. Gestational Diabetes usually develops after the 24th week of pregnancy but can occur earlier. Women who are diagnosed in early pregnancy may have underlying diabetes that has not been recognised before.

Our body gets its major source of energy from glucose. Glucose is a form of sugar that comes from carbohydrate foods (e.g. bread, rice, potatoes, kumara, taro, corn, pasta, cereals, dried beans, lentils, milk, and fruit). After these foods are digested they enter the blood stream as glucose. The body requires the assistance of a hormone called insulin to get glucose from the blood stream to the muscle and other tissues of the body to be used as energy. **Insulin production needs to increase four-fold in pregnancy.**

During pregnancy, the placenta nourishes your baby as it grows. Hormones from the placenta also help your baby develop. But these hormones can also block the normal action of insulin during pregnancy. This is called **insulin resistance**.

Insulin resistance means insulin does not work effectively in the mother's body. Without enough extra insulin the glucose accumulates in the blood. **This is Gestational Diabetes.**

Q Why me?

A Some women are at high risk of developing this condition. The risk factors include:

1. Overweight/obesity
2. Excessive weight gain in pregnancy
3. Family history of diabetes
4. Over 30 years of age

5. Previous history of Gestational Diabetes
6. Poor obstetric history – unexplained stillbirth, miscarriage
7. Previous large baby or babies
8. Ethnicity (some women from certain ethnic backgrounds are at higher risk)
9. Polycystic Ovarian Syndrome

Gestational Diabetes can also occur in women who have none of these risk factors.

Q How is Gestational Diabetes diagnosed?

A It is recommended that all pregnant women should be tested for diabetes between their 24th and 28th week of pregnancy. Firstly, there is a screening test (Polycose), a glucose drink is taken and a sample of blood drawn one hour later. If the test is high a second test is performed (Glucose Tolerance Test). Depending on these results a diagnosis of Gestational Diabetes is made. If a woman has significant risk factors she may be asked to go straight to a glucose tolerance test. Some women at high risk may be tested earlier in pregnancy.

Q How is Gestational Diabetes treated?

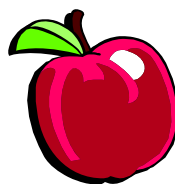
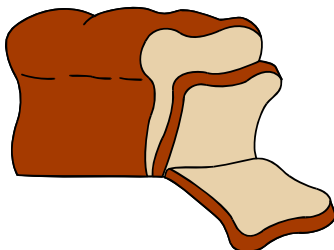
A The goal of treatment is to keep the blood glucose within the normal limits to improve the outcomes for both mother and baby. The Diabetes Team consists of a Physician, Obstetrician, Diabetes Midwife, Dietician, Social Worker and Physiotherapist. They will provide you with information, support and professional.

Step 1: Meal Plan

A Dietician will help you develop a meal plan. This healthy eating plan should be low in fat, no added sugar and high in fibre. The Carbohydrate (glucose making foods) that you eat will be evenly spread over the day. This will result in smaller rises in blood sugar after meals and make good use of a limited insulin supply. The meal plan will also provide nutritious choices.

The reason for having a low fat eating plan is because when fatty food is digested, the fat that enters the blood stream can also interfere with insulin action and worsen insulin resistance.

This meal plan is healthy eating for the whole family - for life.



Step 2: Exercise

Being physically active helps the body control the level of glucose in the blood stream by helping insulin to work properly. Aim to do 30 minutes of moderate intensity activity on most days of the week.

- Walk
- Swim/water walk

Step 3: Blood tests

You will need to monitor your blood glucose frequently. Each blood glucose result must be recorded accurately so that the Diabetes Team can observe any trends and advise on appropriate treatment. Aim for test less than 5.0 mmol/L before breakfast and less than 6.0 mmol/L 2 hours after the start of each meal. We may ask you to aim even lower levels depending on individual risk factors.

Q Will I need to have further treatment?

A For some women, diet and exercise is not enough to achieve normal blood glucose levels. In such cases tablets such as metformin or insulin injections are needed. The treatment is stopped after delivery of your baby. Your Diabetes Team will follow your blood glucose results to see if further treatment should be part of your plan. We will give you further extra information about treatment options if we think that you may need it.

Q How will Gestational Diabetes affect my pregnancy?

A Women with GDM are considered to have “higher risk pregnancies.” This means you have a greater chance of developing complications.

1. **Pre-eclampsia** (Toxaemia) this is a condition that only occurs in pregnancy. It can include high blood pressure, protein in your urine and swelling of your hands and feet. You and your baby can become unwell, so we monitor women with preeclampsia closely, usually in hospital.
2. **Polyhydramnios** involves the production of too much Amniotic Fluid – the fluid around your baby. Extra fluid causes discomfort and can lead to preterm delivery.
3. There is an increased risk of needing a **Caesarean Section** if the baby grows too big.
4. **Induction of labour** (IOL) may be recommended prior to your due date.

If blood glucoses are kept within the normal range, the risk is reduced and a straightforward pregnancy and delivery is more likely.

Q Will Gestational Diabetes affect my baby?

A Most women with GDM who follow recommended treatment have healthy babies. If your blood glucose values are maintained within the normal range you can rest assured that you are doing all that is possible for your baby's health. Some women with GDM are at higher risk of their baby developing problems. The most common is that of a large baby, which happens as a result of high blood glucose levels in the mother being transferred to the baby in the womb. The baby has to produce large amounts of insulin of its own to deal with the high glucose levels. This extra glucose is stored in the baby's body as fat and the extra insulin acts as a growth stimulus.

Babies who have high insulin levels can become unwell in late pregnancy, so for women whose blood sugar levels remain high we worry about the baby's wellbeing. Because of the extra insulin made by the baby's pancreas, newborns may have very low blood glucose levels after birth and may also have a higher risk of breathing problems and jaundice. We will check your baby's blood sugars after birth. Hospitals are well equipped to handle any problems, if they happen, but good blood glucose control is the key to avoiding these problems.

Q Will my baby have diabetes?

A Your baby will not be born with diabetes. But diabetes tends to run in families, so your child may develop diabetes later in life. We are learning more all the time about how the baby's surroundings before it is born affects the baby after it is born, even right through to being an adult. Keeping good sugar control during pregnancy may reduce the chance of your baby developing later obesity and diabetes.

Babies born to mothers whose blood sugars remain high in pregnancy become children who have increased risk of obesity and later on, Type 2 Diabetes. You should encourage your child to have a healthy diet and have regular exercise and maintain a healthy weight to reduce this risk.

Q Will I have Diabetes after the baby is born?

A After the baby is born there is a strong chance that your diabetes will disappear. It is very important to have a follow-up HbA1c at 10-12 weeks after delivery, and then screening for diabetes with your GP every year. There is however, a chance that you will develop diabetes at a later stage in your life. At National Women's Health 25 – 30% of women with GDM still have impaired glucose tolerance 6 weeks postnatal. As women grow older and particularly if they increase their weight, diabetes can develop. We recommend annual screening for this. The risk of developing diabetes can be lowered by eating a healthy diet, enjoying regular exercise and maintaining the correct weight for your height.

Q If I have another pregnancy will I develop Gestational Diabetes?

A Yes – you will more than likely develop GDM with all other pregnancies. With your early pregnancy booking bloods your doctor or midwife may ask for an HbA1C, which is elevated in women who have high sugar levels. If that is normal it is important to have an early Glucose Tolerance Test (about 16 weeks). If this early test is normal, then

another Glucose Tolerance Test is recommended at 24 – 28 weeks, or earlier if other signs suggest GDM is developing.

If you lose weight between pregnancies and keep your weight in the normal range for your height you will reduce the risk of Gestational Diabetes in subsequent pregnancies but will still need to be tested for Gestational Diabetes.

Q What do I have to know to increase my chances for a healthy pregnancy and baby?

A The following list of items should be discussed with your Diabetes Specialist, Obstetrician, Midwife, Diabetes Nurse and Dietician.

- How and when to test your blood glucose and how to interpret the results
- What and when to eat, how to prepare meals that maintain good nutrition and normal weight
- Why and when special tests are necessary
- The importance of monitoring baby's movements
- How to care for yourself after the baby is born to decrease your risk of developing diabetes
- It is essential that you have a follow-up Glucose Tolerance Test 6 weeks after the delivery of your baby.

This pamphlet has been prepared for you to use in conjunction with the information, support and professional care you will receive from your Physician, Obstetrician, Diabetes Midwife, Diabetes Nurse and Dietician.



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