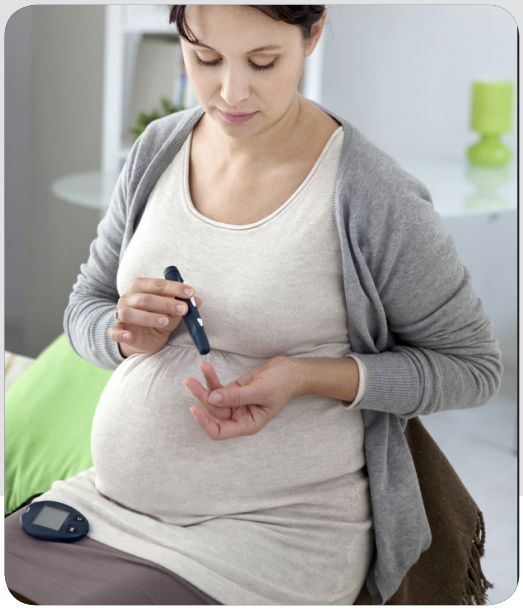
The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
Excellence in Women's Health

Gestational Diabetes

Diabetes is a condition where a person has too much glucose in their blood. Gestational diabetes is a form of diabetes that occurs during pregnancy, and usually goes away after the baby is born. Gestational diabetes is common, with more than 35,000 women being diagnosed with the condition or its recurrence each year in Australia and 3000–4000 women in New Zealand. This is usually diagnosed around the 24th to 28th week of pregnancy.

It is associated with an increased risk of complications during your pregnancy and birth, as well as an increased chance of you and your baby developing diabetes later in life. However with good management, treatment and a healthy lifestyle outlined in this pamphlet, these risks can be reduced.



What causes gestational diabetes?

Glucose is absorbed into the bloodstream following a meal or drink. The body then uses insulin (a hormone produced by the pancreas gland) to move glucose from the blood into the body's cells so that it can be broken down and used for energy. When this occurs, insulin lowers the level of glucose in the blood.

Pregnancy affects how the body breaks down glucose. During pregnancy, the body produces more of certain hormones that can block the effects of insulin. The blocked insulin activity leads to an increase of glucose in the blood. Usually the pancreas will increase insulin production during pregnancy (to about three times the normal amount). However, if the pancreas cannot increase insulin production enough to compensate for the block of insulin activity, less glucose enters the body's cells so blood glucose levels rise and cause gestational diabetes and its effects.
It is not understood why some women develop gestational diabetes and others do not. However, certain factors increase a woman's risk of developing the condition.

Who is at increased risk?

Moderate risk factors include:

- Ethnicity: Asian, Indian subcontinent, Aboriginal, Torres Strait Islander, Pacific Islander, Maori, Middle Eastern, non-white African
- Women who are above the healthy weight range

High risk factors include:

- Gestational diabetes in a previous pregnancy
- Previously elevated blood glucose levels
- Age 40 or older
- Family history of diabetes or a mother / sister who has had gestational diabetes
- Previous large baby with birth weight above 4500g
- Polycystic ovarian syndrome
- Some drugs or medication.

How is it diagnosed?

Gestational diabetes does not cause obvious signs or symptoms in most pregnant women. It is usually diagnosed during routine screening performed at 26-28 weeks of pregnancy. The Pregnancy Oral Glucose Tolerance Test (POGTT) is used to assess how your body responds to a glucose load. There is no need for a 3 day high carbohydrate diet before the POGTT.

In Australia, blood samples are taken. Then, following a drink containing 75gram of glucose, a blood test is taken an hour later and a repeat blood test taken two hours later. If your blood glucose level is above the normal range, you have gestational diabetes.

A two-step process occurs in New Zealand. Blood samples are taken. Then following a drink containing 50gram of glucose, known as a glucose challenge test, a repeat blood test is taken an hour later. If your blood glucose level is above the normal range, you will have another glucose drink containing 75gram of glucose (POGTT). A repeat blood test is taken two hours later and if your blood glucose level is above the normal range, you have gestational diabetes. If you have known risk factors, it may be recommended that a one-step POGTT is the only test needed.
If you are at particularly high risk of developing gestational diabetes, your doctor or midwife may recommend earlier testing at the beginning of your pregnancy and then repeat the test at 24-28 weeks of pregnancy.

Why does it need to be treated?

Gestational diabetes that is not carefully managed can result in high blood glucose levels, which may cause problems for you and your baby. Keeping blood glucose levels within the normal range, reduces the risk of complications and increases the likelihood of a straightforward pregnancy and birth.

Complications affecting babies born to mothers with gestational diabetes include:

- Excessive birth weight. If your blood glucose levels are high, more glucose passes through the placenta to your baby. This can cause your baby to produce high levels of insulin, causing it to grow larger than is normal (macrosomia). Giving birth to larger babies can potentially cause more problems for both you and your baby both during and after the birth.
- A higher risk of prematurity (early birth). Early delivery may be necessary if the baby is large.
- Respiratory distress syndrome (breathing difficulties), especially if the baby is born early.
- The baby may develop low blood glucose (hypoglycaemia) soon after birth because the baby's own insulin production has been increased during pregnancy. It may require treatment to normalise the baby's blood glucose level to prevent harm to the baby.

Complications affecting mothers with gestational diabetes include.

- Preeclampsia, which is a serious form of high blood pressure that only occurs during pregnancy.
- A higher risk of developing gestational diabetes during a future pregnancy
- A higher risk of developing diabetes later in life
- A higher risk of caesarean section
- Induction of labour if the baby is growing too big
- Polyhydramnios, which is the production of too much (amniotic) fluid around the baby.

Your diabetes team

Your diabetes team and pregnancy team will work closely together to manage your diabetes and reduce the risk of complications. Depending on where you live and where you go for your antenatal care, your team may include:

- An obstetrician – a specialist in pregnancy and birth
- A midwife – a specialist who will care and educate you in preparation for the birth and parenting
- An endocrinologist – a doctor who specialises in the care of women with diabetes
- A diabetes educator - a specialist nurse or midwife who will educate you and your family on how to monitor your blood glucose levels
- A dietician – who will help you with a healthy diet & food plan for your pregnancy
- Your general practitioner

How is it managed?

The aim of treatment is to keep your blood glucose levels within normal limits. This can be achieved by healthy eating, physical activity, monitoring your blood glucose levels and medication if needed.

Healthy eating

Following a healthy eating plan is an important part of diabetes management. It will help keep your blood glucose levels within a healthy range and provide nutrition for you and your growing baby. A diet based on fruits, vegetables, and whole grains is recommended to reduce the risk of diabetes. As it is not advisable to lose weight during pregnancy, it may be helpful for a meal plan to be developed by a dietician who can advise you on healthy food choices.

Physical activity

Physical activity helps the body to control its blood glucose levels. Moderately intense exercise for 30 minutes a day on most days of the week is generally recommended. Walking, cycling, and swimming/water walking are suitable forms of exercise during pregnancy.

Further information on Exercise During Pregnancy can be found on the RANZCOG website under patient information.On days when you are less active, you may notice that your blood glucose levels will be higher. When you have gestational diabetes, it is important to try and be active every day.

Monitoring your blood glucose levels

Using a small device to prick your finger and placing a drop of blood into a glucose meter will check and record your blood glucose levels. This is usually done four or five times per day as advised by your health care team.

After your pregnancy follow-up blood glucose level checks are important as gestational diabetes increases the risk of developing type 2 diabetes later in life.

Medication

Although some women with gestational diabetes can maintain normal blood glucose levels with diet and exercise alone, others will need tablets or insulin injections. The medication helps lower your blood glucose level to within a range that is best for your baby's growth and development. The medication do not cross the placenta or affect your baby. Your diabetes team will assist regularly review your blood glucose levels and your correct dose of medication.

The birth

If your gestational diabetes is well managed during your pregnancy and there are no other problems, most women will go "full term" and give birth naturally. If there are concerns about your baby growing too large, you may have additional ultrasounds (scans) and you may be advised to have your labour induced or "brought on" early. During labour, your baby's heartbeat may be monitored by using a cardiotocograph (CTG) machine strapped to your abdomen.

Sometimes a caesarean section may be required, as is the case with all pregnant women. It is a good idea to be well informed, so that you are well prepared if the need arises.

Further information regarding Induction of Labour and Caesarean Section can be found on the RANZCOG website under Patient Information.

After the birth

Following your baby's birth, any medication you were taking for diabetes during your pregnancy, will usually be stopped. You will be told how often to monitor your blood glucose to see whether the levels have returned to normal.For the first 24 – 48 hours, your baby will be monitored closely, including its blood glucose levels (using heel pricks to obtain a drop of blood). This is to make sure that your baby's blood glucose levels are stable and do not go too low. Breastfeeding your baby is preferable, as soon as possible after the birth, and then at least every 3 – 4 hours for the first few days to maintain your baby's blood glucose levels. Your baby may need to be cared for in a special care nursery, but this will depend on your baby's condition and the hospital's policy.

In the future

Gestational diabetes is only temporary and usually disappears after pregnancy. Between 6 – 12 weeks after your baby's birth, you should have an oral glucose tolerance test to check that your diabetes has gone. Once you have had gestational diabetes, you are at a higher risk of developing diabetes later in life and should have regular ongoing checkups. You will have an approximate 30% risk of developing gestational diabetes in a subsequent pregnancy and up to 50% risk of developing type 2 diabetes within 10 to 20 years. Eating well, being active and maintaining a healthy weight can reduce your risk of developing type 2 diabetes and assist you to enjoy a healthy lifestyle after you have had your baby.