Te Whatu Ora
Health New Zealand

Gestational Diabetes

What is diabetes?

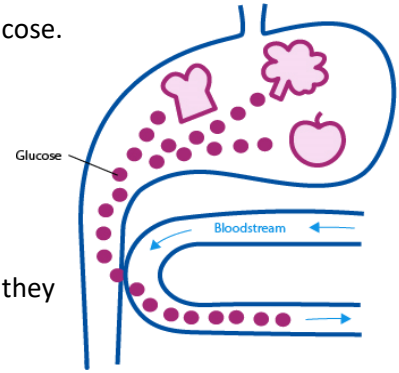
Gestational diabetes (GDM) is defined as diabetes that is diagnosed in pregnancy.

- It is a fairly common complication of pregnancy
- It is usually symptom free
- It is diagnosed during routine screening.

It 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 a large part of its 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, cakes, biscuits and fruit).



After these foods are digested in your stomach, they enter the blood stream as glucose.

The body needs the help 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.

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. Your body needs to make four times more insulin during pregnancy.

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

What increases the chance of GDM?

Some women have a higher risk of developing this condition. The risk factors include:

- Overweight/diabetes
- Excessive weight gain in pregnancy
- Family history of diabetes
- Over 30 years of age
- Previous history of gestational diabetes
- Previous large baby or babies
- Poor obstretic history – unexplained stillbirth, miscarriage
- Previously large baby or babies
- Ethnicity
- Polycystic Ovarian Syndrome

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

Getting diagnosed

An HbA1c test is obtained with your first blood test in pregnancy (or 'antenatal bloods'). This is to find out if you are at risk of developing early gestational diabetes. If the HbA1c is above 40mmol/mol, you will be referred to the Diabetes in Pregnancy service.

It is recommended that all pregnant women should be tested for gestational diabetes between their 24th and 28th week of pregnancy.

Polycose test

Firstly, there is a screening test Polycose. A glucose drink is taken and blood sample is collected one hour later.

Glucose tolerance test

If the polycose test is high, a second test called a Glucose Tolerance Test, is recommended. Depending on these results, a diagnosis of Gestational Diabetes is made.

If you have risk factors (as listed above), you may be asked to skip the Polycose test and go straight to a glucose tolerance test.

Managing Gestational Diabetes

The goal of management is to keep the level of glucose in your blood within the target range. This will improve the outcomes for both you and your baby.

The Diabetes Team consists of a physician, obstetrician, diabetes midwife, dietitian, social worker and physiotherapist. They will give you all the information, support and professional guidance you need. With this support and your commitment, you can do well with gestational diabetes.

Step 1: Meal Plan

A dietitian will help you develop a meal plan which considers your lifestyle. 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 give you choices that give you plenty of nutritious choices.

It is important that you continue to eat a healthy amount of carbohydrates as these are very important for your baby's growth. The reason for having a low fat eating plan is because fatty food can increase 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

Any exercise is better than none.

Step 3: Blood test

You will need to check your blood glucose four times a day.

Test when you wake up and then 2 hours from start of eating after breakfast, lunch and dinner. Blood sugar targets:

- less than 5.0 mmol/L before breakfast
- less than 6.0 mmol/L 2 hours after the start of each meal.

Each blood glucose result must be recorded so that you and the diabetes team can see patterns and work out the best way for you to manage your gestational diabetes. If your blood sugar is higher than the target, make a note of the last meal you ate to talk about with your diabetes midwife.

Will I need to have medicine?

For some women, diet and exercise is not enough to achieve target blood glucose levels. In these cases, tablets such as metformin or insulin injections are needed. Your diabetes team will talk with you about your blood glucose results regularly to adjust your plans. Management is stopped when you are in active labour and will not be needed after the birth of your baby.

Gestational diabetes and my pregnancy

Women with GDM are considered to have “higher risk pregnancies.” If blood glucoses are kept within the target range, there is less risk of complication. This means you have a greater chance of developing complications:

Pre-eclampsia (Toxaemia)

This is a condition that only happens 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 diabetes in pregnancy closely, usually in hospital.

Polyhydramnios

Polyhydramnios is when there is too much amniotic fluid (the fluid around your baby). Extra fluid causes discomfort and can lead to preterm birth and the umbilical cord coming out before baby.

Caesarean section

There is an increased change of needing a Caesarean section if the baby grows too big.

Induction of labour (IOL)

IOL may be recommended prior to your due date.

Gestational diabetes and my baby

Most women with GDM who follow recommended management have healthy babies. If your blood glucose levels are kept within the target range, you can be sure 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 issue is your baby being large. This happens as a result of high blood glucose levels in the mother being passed on to the baby in the womb. This extra glucose is stored in the baby's body as fat and the extra insulin causes baby to grow more. Baby may have a harder birth.

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.

Will my baby have diabetes?

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 birth, affects the baby after it is born, and throughout life. Managing your sugars during pregnancy creates a healthy environment for your baby to grow and develop in the womb.

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, have regular exercise and maintain a healthy weight to lower this risk.

Will I have diabetes after the baby is born?

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 you give birth. Your diabetes midwife will request this test. Your GP will follow up this result.

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 have pre-diabetes when tested 3 months after birth.

As women grow older and particularly if they increase their weight, diabetes can develop. We recommend getting an HbA1c screen every year with your GP for this. The risk of developing diabetes can be lowered by eating a healthy diet, enjoying regular exercise and keeping the correct weight for your height. Your diabetes midwife will refer you to Sport Auckland for an individual consultation to help you develop a plan.

If I have another pregnancy will I develop gestational diabetes?

You will more than likely develop GDM with all other pregnancies.

With your early pregnancy booking bloods your doctor or midwife will ask for an HbA1C, which is elevated in women who have high sugar levels. A referral will then be made to the Diabetes Clinic. If the HbA1C normal, it is important to have a Glucose Tolerance Test between 24 – 28 weeks, or earlier if other signs suggest GDM is developing.

If you lose weight between pregnancies and keep your weight in the target 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.

How to increase my chances of a healthy pregnancy and baby

The following list of items should be discussed with your physician, obstetrician, midwife, diabetes midwife, and dietitian.

- How/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 target weight
- Why and when blood tests and scans 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 Type 2 diabetes

It is recommended that you have a follow-up HBA1C 10-12 weeks after the birth of your baby. Contact your GP for the result.

Please talk to your diabetes midwife about anything that is stopping you from testing your blood sugar, having regular meals, or using your medicines. We know it is a big commitment, we want to help you do your best.

Resources

Diabetes NZ

https://www.diabetes.org.nz/

Ministry of Health

https://www.health.govt.nz/yourhealth/conditions-and-treatments/diseases-and-illnesses/diabetes?

Health Navigator

https://www.healthnavigator.org.nz/health-a-z/d/diabetes-gestational/

https://adips.org/resources-pregnancy-and-diabetes.asp

Notes

Te Whatu Ora
Health New Zealand
Te Toka Tumai Auckland

Classification number: WHD002 (Reviewed: August 2021)
Women's Health information Unit hiws@adhb.govt.nz