



Gestational diabetes

what you need to know



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Introduction

Finding out that you have gestational diabetes can be very frightening. Pregnancy is a time of physical changes and emotional highs and lows, and having diabetes can only make this harder. Naturally, there are concerns about the baby's health as well as your own.

This booklet aims to provide you with the answers that you need.

The good news is that gestational diabetes can be managed – you can have a healthy pregnancy and a healthy baby. You will need to take responsibility for the choices you make between now and your baby's birth, and beyond.

Understanding diabetes

Diabetes occurs when the body is either unable to produce insulin (a hormone produced by the pancreas) or cannot produce enough to properly control blood glucose (sugar). Typically, glucose enters the blood during/after the digestion of starchy foods such as bread, pasta, and sweets.

In order for this blood glucose to be used by the body, insulin is required. When there isn't enough insulin in the body to allow this glucose to be used, it simply remains in the blood. This leads to a rise in glucose levels, which can be detected by a blood test.

The two most common types of diabetes are referred to as **type I** and **type II**. **Type I** diabetes is more common in children and is characterised by the body's inability to produce any insulin. **Type II** usually occurs after the age of 40. It occurs when the body either cannot produce enough insulin or becomes resistant to the insulin that is produced.

All diabetics have the same problem of excessive glucose in the blood.

And gestational diabetes?

Gestational diabetes is a form of diabetes that first occurs during pregnancy.

When and how is gestational diabetes diagnosed?

Most women are diagnosed between 24 and 28 weeks into their pregnancy. Gestational diabetes is normally diagnosed after a blood test shows a high level of glucose.

It is normally discovered because the doctor sent you to be screened for the presence of gestational diabetes. (If you were at a particularly high risk for getting gestational diabetes, your doctor may have sent you earlier, at 16 weeks.)

It may seem as though the 24th week is rather late for diagnosing such an important condition, but gestational diabetes normally occurs around this stage so earlier screening is of no benefit. It is the hormonal changes in the second and third trimesters of pregnancy, along with the growth demands of the developing foetus, that increase a pregnant woman's insulin needs by two to three times that of normal. These hormonal changes normally help the baby to grow, but can sometimes lead to diabetes.

What are the risk factors?

The three main risk factors for gestational diabetes are being overweight, having a family history of diabetes and having had a baby that weighed over 9 pounds.

How can gestational diabetes affect my baby and me?

There are a number of problems that gestational diabetes can cause. However, successful management of your blood glucose level – discussed over the next few pages – reduces your risk of developing them.



Conditions affecting the woman

■ Urinary tract infections

These infections are most common when a woman has gestational diabetes. They are caused by bacteria which grow more easily when blood glucose is high.

■ Caesarean section

This procedure is more common in women with gestational diabetes.

■ Pre-eclampsia

This is a condition that has three main symptoms: high blood pressure, protein in the urine and swelling of various parts of the body (this swelling is called oedema by doctors).

■ Polyhydramnios

This is the condition of having too much amniotic fluid (amniotic fluid is the liquid inside the uterus). The uterus is where the baby grows and develops. Polyhydramnios can cause the baby to be born early.

Conditions affecting the baby

■ Macrosomia

This means 'large baby'. If your blood glucose rises too high, then the extra glucose will affect your baby. The baby will make extra insulin to compensate for the extra glucose, and the combined effect is to make the baby grow bigger and faster than it should. A large baby can be hard to deliver.

■ Hypoglycaemia of the baby

If the baby is exposed to high glucose levels, it will produce more insulin to balance them out. After the baby is born, the high level of insulin will overwhelm the amount of glucose that it gets from milk, and so its blood glucose level will be too low.

■ Jaundice

Jaundice makes a newborn baby's skin look yellow. This is more common if the mother has gestational diabetes. It is caused because the baby has to break down blood cells after it is born, and the breakdown product is yellow (all babies have to do this). If the baby's liver is immature at birth, the skin can become yellowish.

There are a few rarer conditions that are associated with gestational diabetes, but they are less common than the ones listed here.

Although the list on these pages may be frightening, it is worth remembering that good control of your blood glucose and following the instructions of your healthcare team will reduce the risk and allow you to have a healthy baby.

After the birth

Your blood glucose level should return to normal soon after the birth. Your doctor or nurse will organise checks to ensure that this happens. After you have had gestational diabetes your risk of diabetes later in life is increased.

Managing your blood glucose

Keeping your blood glucose well controlled has many benefits, including:

Reducing the risk during pregnancy

All of the problems caused by gestational diabetes on the previous two pages are reduced by good control of blood glucose.

Avoiding severe hypos

Hypos occur when your blood glucose falls too low. It is difficult to avoid hypoglycaemia completely when your diabetes is treated with insulin and, if your everyday blood glucose is fairly low, hypos may seem more of a risk.

Many people, however, find that it is the big swings in blood glucose, from very high to very low, which may lead to severe hypoglycaemia. When their blood glucose is well controlled they may feel mildly hypo slightly more often, but severe hypos are rarer.

Hyperglycaemia occurs when you let your glucose get too high and it isn't good for you anymore than low blood glucose is, and letting your glucose get very high may lead to a risk of diabetic coma.

Keeping an eye on your blood glucose is the best way to avoid both hypo and hyper glycaemia.

Feeling better today

If you keep your blood glucose well controlled you may find that you feel fitter and have more energy. With pregnancy, energy levels can often fluctuate anyway, which is all the more reason to control your blood glucose levels.

Reducing your risk of future health problems

You have probably heard that, over time, diabetes can bring with it some extra health problems. High blood glucose can damage the body, affecting the eyes, kidneys, nerves, heart and circulation. It is best that you are aware of these potential problems. Medical research, however, has shown that you can significantly reduce your chance of developing them by careful control of your blood glucose.

Blood glucose testing

Your nurse will have provided you with a blood glucose monitor and demonstrated how to use it.

You should make an effort to follow their instructions to manage your blood glucose to the target levels that you have been given.



What makes your blood glucose rise and fall?

So, equipped with an accurate blood glucose meter, it is time to look at what makes your blood glucose rise and fall throughout the day. There are many factors which can affect your blood glucose levels.

Raising your blood glucose



Eating

Eating increases your blood glucose, particularly if you eat sweet or starchy food.



Illness

When you are ill, especially when you have a temperature, your body makes glucose from its own stores to help fight the infection, so your levels will rise even if you don't eat.



Stress

Your body's natural reaction to feeling stressed is to make glucose from its stores and move it into your blood, so that you are ready to stand and fight or run away if necessary.



Exercise

Exercise usually lowers your blood glucose except when you do not have enough insulin available. If you don't your levels can rise.



Smoking

Smoking has been shown to make you less sensitive to insulin.

Lowering your blood glucose



Your insulin dose

The insulin you inject lowers your blood glucose. Some short-acting insulins are designed to do this quickly; longer-acting insulins work more slowly.



Exercise

Exercise will generally lower your blood glucose. As you build muscle, it will also make your body more sensitive to the insulin you inject.



Not eating

If you forget to eat, or do not eat enough carbohydrate to balance your insulin dose, your blood glucose will fall.



Alcohol

Alcohol can cause your levels to fall because it shuts down your body's natural mechanism for raising your blood glucose.



The role of food in diabetes

To understand how eating affects your blood glucose levels you need to know a little about how it arrives in, and leaves, your blood.

Where the glucose in your blood comes from

There are two main sources of glucose in your blood.

■ Digesting the carbohydrate you eat

Carbohydrate foods are sugars and starches such as sweets or potatoes. Carbohydrates from the food you eat are the main source of glucose in your blood. In your gut you break down carbohydrates into sugars, mainly glucose, and absorb them into your blood.

■ Producing glucose inside your body

Your body can also produce glucose internally from a special store in the liver, called glycogen. Glycogen is your body's emergency glucose store. If your blood glucose falls too low your liver immediately starts breaking down your glycogen stores to make glucose.

(Unfortunately you are unlikely to have glycogen stores big enough to prevent a hypo.)

Where the glucose goes

Glucose is your body's main fuel. Your muscles and brain need it, just like a car needs petrol. Your blood carries glucose around your body to where it is needed. To get the glucose out of your blood and into your tissues you need insulin. Insulin either moves the glucose from your blood into your muscles and brain for energy or stores it in your liver (as glycogen) or under your skin and around internal organs as fat. When you treat your diabetes with insulin you try to match the action of the insulin you inject with the food you eat.

Managing your diet

A dietician can help you to plan your meals to control your blood glucose. Carbohydrates, in foods like bread, potatoes and sugar, will cause your glucose to rise the most.



Insulin, exercise and smoking

Insulin

If your pancreas (an organ in your body) cannot produce enough insulin, or your insulin is not working well, you may be prescribed insulin by your doctor. There are different forms of insulin available, and your doctor will have chosen the most appropriate type for you. (Some people with other types of diabetes are prescribed pills to control their glucose levels, but the pills cannot be used during pregnancy).

It is important to take insulin as directed by your doctor. Insulin triggers your cells to take up glucose (which is then used as fuel). This causes the level of glucose in your blood to decrease.

Exercise

For almost everyone, exercise can bring increased fitness, improved flexibility and mobility and a general feeling of well-being. It can also help with weight loss. But for people with gestational diabetes, exercise has some special benefits, in particular:

- Improved sensitivity to insulin
- Help with blood glucose control

You should talk to your doctor or nurse about exercising while pregnant. They will be able to advise you about what type of exercise is suitable.

Smoking

Smoking is harmful for everyone, and it is proven to harm the baby if you smoke while pregnant. In addition, smoking makes the body resistant to the effects of insulin. If you do smoke, you should speak to your doctor for advice about quitting.

How your baby develops

12 weeks

All your baby's organs have formed, as well as baby's face, hands and feet.

16 weeks onwards

Your baby begins to move. At first it may feel a bit like 'fluttering' inside.

20 weeks

Your baby is now really starting to grow in size.

22 weeks

Your baby is now about 16 cm from head to toe.

25 weeks

Your baby will soon begin to respond to sound. A loud noise may make your baby jump or kick.

26 weeks

Your baby's eyelids open for the first time.

28 weeks

Your baby may begin to follow a pattern of waking and sleeping, but not necessarily the same pattern as yours!

31 weeks

Your baby is now about 24 cm from head to toe.

32 weeks

Around this time your baby will move to lie head downwards.

34 weeks

All babies grow a little plumper during these last weeks of pregnancy. Your baby's skin, which was wrinkled, now begins to smooth.

36 weeks

Your baby's head may move down into your pelvis – the head is said to be 'engaged' – although this might not happen until labour starts. If you have heartburn, it might start to feel better now.

37–40 weeks

Your baby is now approaching full size and will soon be ready to be born!

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