



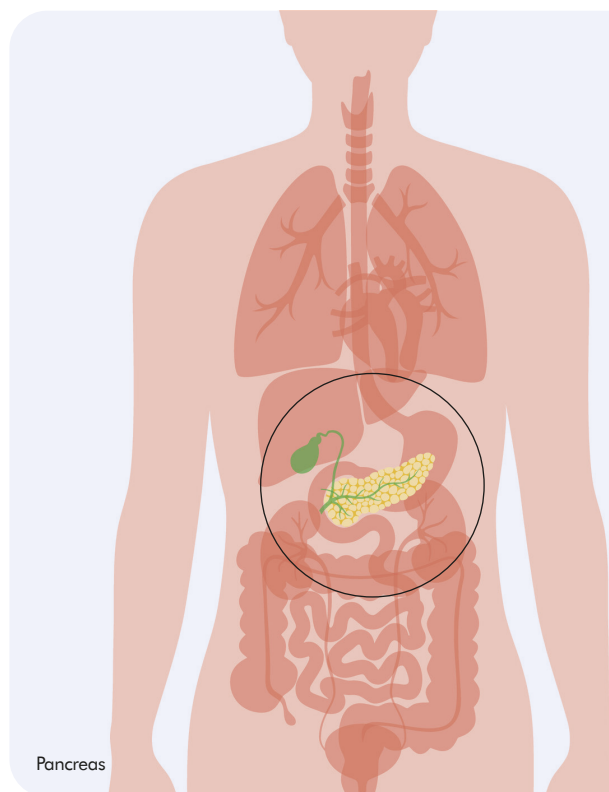
PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

WHAT YOU SHOULD KNOW ABOUT **YOUR TESTS FOR DIABETES**

Diabetes occurs when the level of glucose in your blood is higher than it should be because of a problem your body has using insulin.

Insulin is a hormone that is made in the pancreas and released into the bloodstream to help move glucose into the body's cells to be used as energy. Diabetes develops when your pancreas does not produce enough insulin for your body to function properly or when your body becomes resistant to insulin.



Type 1 diabetes is an autoimmune condition in which your body's immune system attacks cells in your pancreas and destroys them. As a result, your pancreas stops producing insulin. It is usually diagnosed in children and younger adults.

Type 2 diabetes develops over years as the body becomes resistant to insulin and the hormone becomes less effective at lowering your blood glucose levels. The pancreas produces more insulin to try to compensate. Gradually, the pancreas wears out – it loses the ability to produce enough insulin. Glucose levels begin to rise in the blood. High levels can cause damage to vessels that supply blood to organs, and this increases the risk of heart disease, stroke and kidney disease as well as damage to nerves and eyes.

Gestational diabetes occurs during pregnancy. Hormones produced to help the development of the baby also block the action of insulin. Most people, but not all, find their glucose levels go back to normal after the baby is born. Usually, someone with gestational diabetes has no symptoms and the diagnosis is made by routine blood tests during pregnancy.



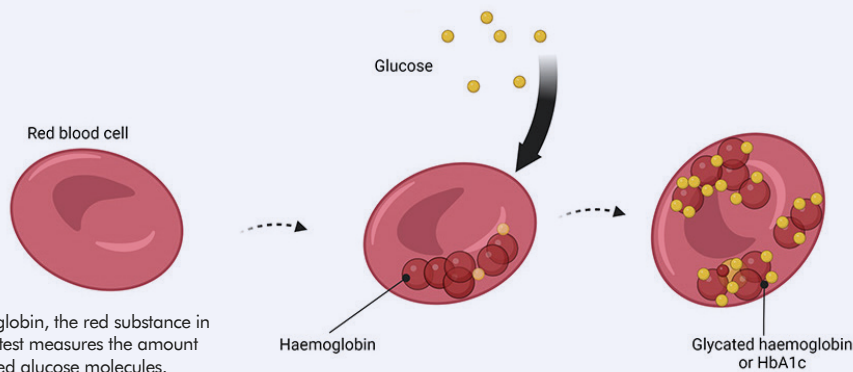
Testing for diabetes

The HbA1C test can assess your glucose levels over the previous few months. Glucose attaches to the haemoglobin – the red substance in red blood cells. The HbA1c test measures the amount of haemoglobin with an attached glucose molecule. Because red blood cells have a lifespan of about 120 days the test can give a very good indication of your average glucose levels over that period.

Blood glucose tests measure the actual amount of glucose in your blood at the time you take the test. These tests could be a **random glucose, fasting glucose** or the **oral glucose tolerance test**. They each have a role to play.

The oral glucose tolerance test is used for diagnosing gestational diabetes between the 24th and 28th week of pregnancy or earlier if you are considered to be at high risk. You'll need to fast for between 8 – 12 hours then your blood is tested to establish your fasting glucose level. After this, you are given a sugary drink and have your blood tested one and then two hours later. If your glucose level is above the normal range a diagnosis of gestational diabetes is made.

HbA1c testing



PTEx
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What your results can show

If you have symptoms of diabetes, such as being very thirsty, passing more urine than usual and feeling tired and your test results are at or above the cut-off levels then your doctor can make a diagnosis of diabetes. If you don't have symptoms but your results are high, your doctor may ask you to repeat the tests.

Test	Result indicating diabetes
HbA1c (glycated haemoglobin)	Higher than or equal to 6.5% or 48 mmol/mol*
Random glucose	Higher than or equal to 11.1 mmol/L
Fasting glucose	Higher than or equal to 7.0 mmol/L
Oral glucose tolerance test (2hours)	Higher than or equal to 11.1 mmol/L
Oral glucose tolerance test (2hours) for gestational diabetes	Higher than or equal to 8.5 mmol/L

*Results are given as mmol/mol which stands for millimoles per mole.

Monitoring

At home glucose monitoring

If you are being treated with insulin it's important to keep track of your glucose levels so you can stop it from going too high. The aim is to keep your blood glucose levels within a specified target range in order to reduce your risk of developing complications.

Finger prick

If you are taking insulin you'll need to check your blood glucose levels throughout the day using a hand-held glucose meter. You may need to check your glucose levels several times a day depending how well your glucose is controlled. The hand-held glucose meter requires a finger prick sample of blood. This is dropped onto a glucose test strip and the

strip is inserted into the meter. After a few seconds the glucose result is displayed on the screen of the device.

Continuous and flash glucose monitoring

A continuous glucose monitor is a wearable device that tracks your glucose levels throughout the day without you having to prick your finger. There are two types of systems available: real time continuous glucose monitors and flash glucose monitoring. This is a small sensor that you wear under your skin, recording the glucose levels continuously throughout the day. It measures the amount of glucose in the fluid that surrounds your body cells and you can find out your levels whenever you want to by scanning the sensor using a reader or phone.

For more detailed information on these and many other tests go to pathologytestsexplained.org.au



www.pathologytestsexplained.org.au

Pathology Tests Explained is the primary national source of consumer information on pathology testing. Information is written and edited by practising pathologists and scientists, including leading experts. This ensures integrity and accuracy.

Pathology Tests Explained is managed by a consortium of medical and scientific organisations representing pathology practice in Australia. More details at:

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My Health Record

You'll find a direct link to the Pathology Tests Explained website embedded in the pathology results pages of your My Health Record.

Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.