



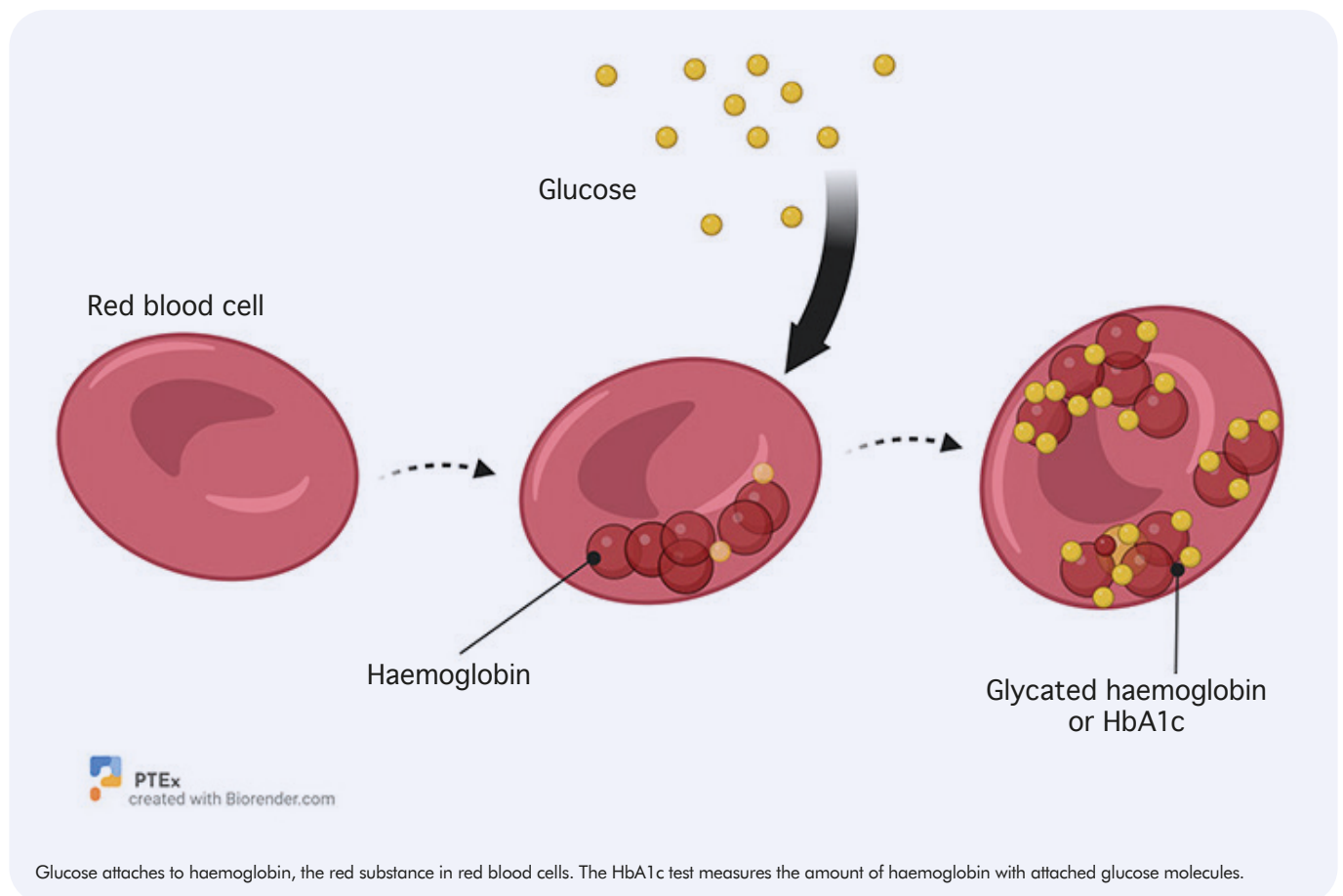
PATHOLOGY TESTS EXPLAINED

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 **HbA1c TESTING FOR DIABETES TYPE 2**

The HbA1c is a blood test used to diagnose type 2 diabetes and assess how well your glucose has been controlled over the previous few months. Even though you may have had some very high or very low blood glucose levels, HbA1c will give you a picture of the average amount of glucose in your blood over that period. The results can help you and your doctor know if the measures you are taking to control your diabetes are working.

The HbA1c test measures the amount of haemoglobin in your blood with an attached glucose molecule, and this gives a very good indication of what your average glucose levels have been over the past 2 to 3 months.



Glucose attaches to haemoglobin, the red substance in red blood cells. The HbA1c test measures the amount of haemoglobin with attached glucose molecules.



If your doctor suspects that you might have type 2 diabetes this test can help make a diagnosis. If diabetes is diagnosed, Diabetes Australia recommends that HbA1c is measured every three to six months. HbA1c is sometimes measured more often in people who have just been diagnosed with diabetes, if someone's blood glucose remains too high, or if their treatment plan changes.



What your test results can tell you

| DIAGNOSIS | HbA1c RESULT | COMMENTS |
|-------------|--|---|
| Normal | Less than 6.0 % (42 mmol/mol) | Diabetes unlikely |
| Diabetes | Equal to or more than 6.5% (48 mmol/mol) | Confirms the diagnosis of diabetes. Sometimes this test may need to be repeated to confirm the result |
| Prediabetes | 6.0 to 6.4 % (42 - 46 mmol/mol) | These levels suggest a higher risk of developing diabetes |

HbA1c is now usually reported with two sets of units. These are the % (NGSP) units that have been used for some time and the new Systeme International (SI) units which are mmol/mol, sometimes known as IFCC units. To convert results in % units to SI units the following equation may be used: $\text{HbA1c (mmol/mol)} = 10.93 \times \text{HbA1c (\% units)} - 23.5$



Treatment targets

The general target for HbA1c is less than 7 per cent (53 mmol/mol).

If you have diabetes and your HbA1c is below the target of 7 per cent (also reported as 53 mmol/mol) it is likely that your diabetes is under good control.

If your HbA1c rises above 7 per cent (53 mmol/mol), you are at increased risk of developing long term complications such as eye disease, kidney disease or nerve damage and probably heart attack and stroke.



Conditions that can affect HbA1c results

Abnormal types of haemoglobin, for example if you suffer from sickle cell disease, can affect HbA1c levels. Accurate results can be obtained using an alternative method to measure your HbA1c.

Anaemia can cause too many blood cells to break down (haemolysis) or be due to heavy bleeding.

Iron deficiency – a recent blood transfusion and erythropoietin therapy may affect your HbA1c measurements.

Pregnancy and chronic kidney disease can also affect the test result.



Questions to ask your doctor

- Why does this test need to be done?
- Do I need to prepare (such as fast or avoid medications) for the sample collection?
- Will an abnormal result mean I need further tests?
- How could it change the course of my care?
- What will happen next, after the test?

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



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www.pathologytestsexplained.org.au

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Pathology Tests Explained is managed by a consortium of medical and scientific organisations representing pathology practice in Australia. More details at: www.pathologytestsexplained.org.au/about



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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.