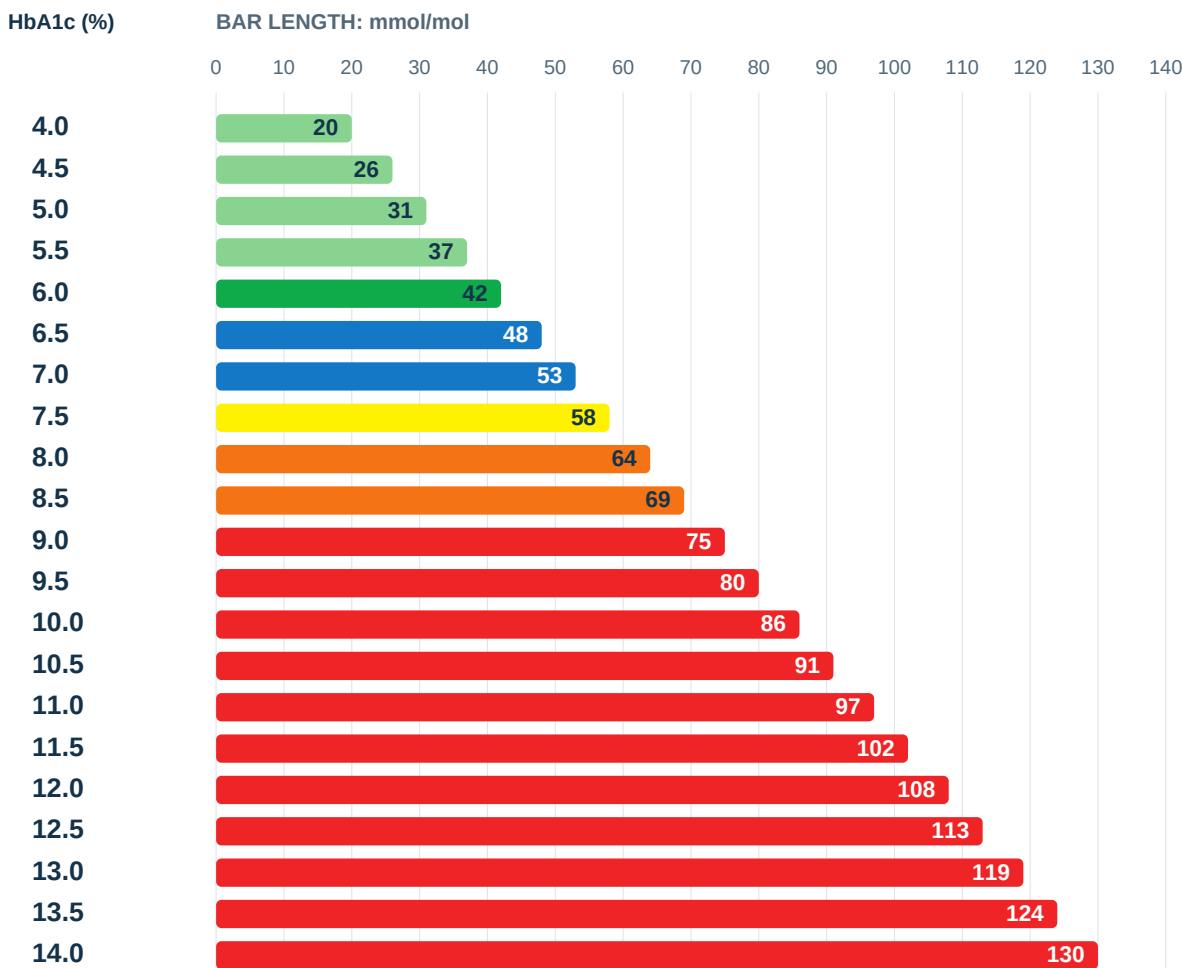


HbA1c, in two units

A colour-coded conversion bar chart

Read your HbA1c percentage on the left and its equivalent in mmol/mol inside each bar. Bar length represents mmol/mol, measured from zero.



WHAT THE COLOURS MEAN

- **Light green | below 6.0%**
Below 42 mmol/mol: normal diagnostic range. [2]
- **Green | 6.0-6.4%**
42-47 mmol/mol: prediabetes diagnostic range. [2]
- **Blue | 6.5-7.0%**
48-53 mmol/mol: within the diabetes diagnostic range. [2]
- **Yellow | 7.1-7.5%**
54-58 mmol/mol: within the diabetes diagnostic range. [2]
- **Orange | 7.6-8.5%**
60-69 mmol/mol: within the diabetes diagnostic range. [2]
- **Red | above 8.5%**
Above 69 mmol/mol: within the diabetes diagnostic range. [2]

Ranges were checked against diabetes.co.uk and Diabetes UK. Blue, yellow, orange and red are visual subdivisions, not four separate diagnostic categories. An HbA1c result needs clinical interpretation; it does not set a personal treatment target. [2,4,7]

Selected conversion points only; values are rounded. HbA1c (mmol/mol) is not a finger-prick glucose reading (mmol/L). See page 2 for targets and sources. [1-3]

Behind the chart

01 / How the numbers were calculated

Each bar is calculated directly from the NGSP / IFCC master equation. No patient records, iDC account data or values transcribed from another poster are used. The chart samples 4.0% to 14.0% at 0.5-percentage-point intervals; values between these points are not displayed. [1]

$$\text{IFCC (mmol/mol)} = (\text{NGSP (\%)} - 2.152) / 0.09148$$

Round to the nearest whole mmol/mol; for example, 7.0% becomes 53 mmol/mol.

Percentage values are the DCCT-aligned / NGSP scale; mmol/mol is the IFCC scale. The shared 5.0-14.0% points on this bar chart were checked against diabetes.co.uk conversion download and match it. The 4.0% and 4.5% points are calculated using the same master equation. These are two HbA1c units, not an HbA1c-to-blood-glucose conversion. [1,3]

02 / Interpreting the colours

Diabetes.co.uk gives three diagnostic ranges: below 42 mmol/mol (below 6.0%) is normal; 42-47 mmol/mol (6.0-6.4%) is prediabetes; 48 mmol/mol or more (6.5% or more) is the diabetes range. Our green band stops at 6.4%; the 6.5% bar is blue. Blue through red subdivide the diabetes range for readability only. [2]

Diabetes UK advises repeating a result of 48 mmol/mol or more before diagnosing someone without symptoms. A lower HbA1c does not exclude diabetes diagnosed using glucose tests. A clinician must interpret results; this chart cannot diagnose diabetes. [7]

03 / Personal treatment targets

Diabetes.co.uk gives 48 mmol/mol (6.5%) as a general goal. Diabetes UK describes 48 mmol/mol (6.5%) or below as ideal, while supporting personal goals and gradual reductions agreed with the care team. [2,6] NICE gives type 2 diabetes examples of 48 mmol/mol with an initial regimen without hypoglycaemia risk and 53 mmol/mol (7.0%) with medicines that can cause hypoglycaemia. A colour alone cannot indicate whether an individual is on target. [4]

Pregnancy requires separate specialist guidance. A conversion chart does not provide an insulin dose or a treatment plan. [5]

04 / Sources checked on 27 October 2026

[1] NGSP. IFCC Standardization of HbA1c. Reference-network master equation used to calculate every bar. [Conversion method](#).

[2] Diabetes.co.uk. Guide to HbA1c. Updated 29 October 2023. Diagnostic ranges, general target and individualisation. [HbA1c guide](#).

[3] Diabetes.co.uk. HbA1c Units Converter and linked conversion chart. Shared chart values checked against its download. [Converter and downloadable table](#).

[4] NICE NG28. Type 2 diabetes in adults: management. Updated 18 February 2026; recommendations 1.5.5-1.5.10. [Clinical target guidance](#).

[5] NICE NG3. Diabetes in pregnancy: management from preconception to the postnatal period. [Pregnancy guidance](#).

[6] Diabetes UK (diabetes.org.uk). What is HbA1c? Ideal HbA1c, individual targets and gradual reduction. [Patient guidance](#).

[7] Diabetes UK. Diagnostic criteria for diabetes. HbA1c thresholds, repeat tests and diagnostic limitations. [Professional diagnostic guidance](#).

Diabetes.co.uk is a separate organisation from the Diabetes UK charity (diabetes.org.uk). Sources inform this independently designed iDC resource; no endorsement is implied.