



Glycaemia Target

Target:

- The objective of good glycaemia control is to achieve the lowest HbA1c or fasting blood glucose that can be safely attained without significant risk of hypoglycaemia aiming for HbA1c $\leq 7\%$ (53mmol/mol) and fasting and pre-prandial blood glucose ≤ 7 mmol/l.
- Targets should be individualised, realistic and achievable. For patients at high risk of hypoglycaemia consider the risk benefit ratio before pursuing tight blood glucose control, including potential harms from hypoglycaemia and restrictions on quality of life.
- Involve the person in decisions about their individual HbA1c target level, which may be above the recommended target for people with type 2 diabetes in general
- Any reduction from initial levels is beneficial in the mid- and long-term, even if target level is not reached.

Measurement of HbA1c:

- 2–6-monthly intervals (tailored to individual needs) until the blood glucose level is stable on unchanging therapy; use a measurement made at an interval of less than 3 months as a indicator of direction of change, rather than as a new steady state
- 6-monthly intervals once the blood glucose level and blood glucose-lowering therapy are stable.

Alternative measures of glycaemic control:

When HbA1c monitoring is invalid (because of disturbed erythrocyte turnover (anemia) or abnormal hemoglobin type (thalassemia, sickle cell disease), estimate trends in blood glucose control using:

- Fructosamine estimation
- Quality-controlled plasma glucose profiles

Discrepancy:

Investigate unexplained discrepancies between HbA1c and other glucose measurements. Seek advice from the diabetes specialist team or clinical biochemistry.

New units for HbA1c

Conversion Chart for HbA1c from DCCT (Diabetes Control and Complications Trial) to IFCC (International Federation of Clinical Chemistry)

DCCT- HbA1c (%)	IFCC-HbA1c (mmol/mol)
6.0	42
6.5	48
7.0	53
7.5	58
8.0	64
9.0	75

Or you can use the following equation:

$$\text{IFCC-HbA1c (mmol/mol)} = [\text{DCCT-HbA1c (\%)} - 2.15] \times 10.929$$

Glycaemia Control Treatment Strategies for Type-2 Diabetes

Principles	
Diet and Lifestyle advice	At diagnosis and repeat at review
Set safe targets:	Realistic and achievable
Hypoglycaemia concerns?	Caution with Sulphonylureas and Insulin
Obesity concerns?	Caution with Sulphonylureas, Glitazones and Insulin
Minimize drug burden	Maximize concordance

Hypoglycaemic agents:

The table outlines the position of hypoglycaemic agents to be considered in the management of patient with type-2 diabetes.

Position	Drug	Tailor to drug therapy patient needs
1st	Metformin	For all patients unless contraindicated or intolerant
2nd	Sulphonylureas	May be used first line in thin, symptomatic, hyperglycaemic patients. Cause weight gain and hypoglycaemia
3rd	DPP-4 inhibitors	May be used 1st or 2nd line
	Glitazones	May be used 2nd line, see note regarding safety
	Acarbose	Rarely used
4th	Injectable Therapies	Injectable therapies should be considered early when HbA1c targets are not achieved on OHA's (oral hypoglycaemic agents) All OHA's except Metformin are discontinued at start up.
GLP 1 Agonists		Consider first if obesity or hypoglycaemia is a risk
Insulin		Consider first if significant hyperglycaemia, ketosis, weight loss
Wolverhampton Formulary: http://medicines.wolvespct.nhs.uk/formulary/bnf6.asp		
http://www.nice.org.uk/nicemedia/pdf/CG87NICEGuideline.pdf		

Glucose-lowering therapies in type 2 diabetes

