Coventry & Warwickshire
Area Prescribing Committee
Resource Document
The APC approves this document as appropriate for use within the health economy by those clinicians, or group of clinicians, that choose to. This resource has not received the extensive scrutiny required for it to be designated as an APC clinical guideline.

Blood Glucose Self-Monitoring Guidelines

Alphabet Strategy

- Advice
- Blood Pressure
- Cholesterol
- Diabetes Control
- Eye Examination
- Foot Care
- Guardian Drugs

Introduction

Blood glucose self-monitoring is indicated in most patients with insulin-treated diabetes but it's value is limited unless users self-adjust their insulin dosage according to results. It is arguably of less benefit in type 2 diabetes treated with diet alone or with oral medications, where management is usually guided by HbA1c [and is expensive]. However, some patients with type 2 diabetes find home glucose monitoring educational and empowering. Glucose monitoring should only be started when there is a clear need and purpose agreed with the user, with instructions and education in regard to appropriate testing, timing of test and how to act upon results. It is not recommended in patients who are reluctant and in whom it will have little influence on management. Patients should be encouraged to test minimally to achieve and maintain good glycaemic control.

Target Blood Glucose range: 4 – 7 mmol/l, or as individually agreed with the patient

The majority of these patients will not need to self-monitor blood glucose:

Type 2 diabetes on diet and lifestyle
Monotherapy or combinations: Metformin, Pioglitazone, DPP4 inhibitors, SGLT2 inhibitors, GLP-1 receptor agonists

Type 2 diabetes	**On sulphonylureas/glinides**
	Explain and offer glucose monitoring and start if users agree or spontaneously request it. Encourage monitoring if control is sub-optimal (i.e. HbA1c >58 mmol/mol (>7.5%) and especially if insulin is likely to be needed soon: this may avoid starting insulin and monitoring. *Recommended regime:* test four times a day (preferably before each main meal and before bedtime), once a week if HbA1c >58 mmol/mol (7.5%), once a fortnight if HbA1c <58 mmol/mol (<7.5%).
	On insulin
	Monitoring is strongly recommended and the results should be used to adjust insulin dosage regularly. Some patients may need to test up to 4 times a day depending on their insulin regimen. *Recommended regime*: test four times a day (before each meal and bedtime) – twice a week if HbA1c >58mmol/mol (<7.5%), once a week if HbA1c <58 mmol/mol (<7.5%).
Type 1 diabetes	**Carbohydrate counting**
	These patients need to monitor blood glucose 4 – 6 times daily to adjust insulin dose at each mealtime depending on pre-meal blood glucose and carbohydrate content of food. Ketone monitoring with a blood ketone meter, particularly in women planning pregnancy and as part of sick day rules is recommended.
	On CSII (insulin pump) therapy
	These patients need to test 4 - 6 times daily (absolute minimum) for the reasons as above plus to prevent diabetic ketoacidosis, more frequent testing maybe required.
Children	Monitoring is strongly recommended and the results should be used to adjust insulin dose regularly. *Recommended regime:* test twice a day (preferably before breakfast and before tea/dinner) every day and more frequently if wide glycaemic variability/frequent hypoglycaemia/unpredictable blood glucose levels, hypoglycaemic unawareness.

Test more often – if control is poor:

- During pregnancy or planning pregnancy
- During illness or during changes in therapy
- If lifestyle changes (e.g. changes in diet or exercise), or during prolonged fasting (e.g. Ramadan, and taking sulphonylureas/insulin
- If hypoglycaemia is more frequent and/or hypoglycaemic unawareness

Driving within the law and safety: DVLA advice to patients

You must be able to recognise or self-treat your hypos.
If on insulin or suphonylureas or glinides: test blood glucose within 2 hours before driving and every two hours whilst driving. If blood glucose is ≤5 mmol/l, take carbohydrate before driving and if <4 mmol/l, **don't drive.**

If **group 2 license holder** and taking non-insulin medications which may cause hypoglycaemia, test blood glucose at least twice daily (including non driving days) and at times relevant to driving. Record results on a memory meter (~ 3 months).