

Guideline for the Self-Monitoring of Blood Glucose in Adults with Type 2 Diabetes (END2)

Author	Medicines Optimisation Team, Sunderland CCG
Approved by	South Tyneside and Sunderland Area Prescribing Committee and relevant groups / committees within stakeholder organisations
Current Version	3
Published on	March 2021
Review date	March 2024
Version control	V1: June 2016 – November 2016 V2: December 2016 – March 2021

This guideline is intended for use in primary care

Guidance on the Self-Monitoring of Blood Glucose in Adults with Diabetes

Introduction

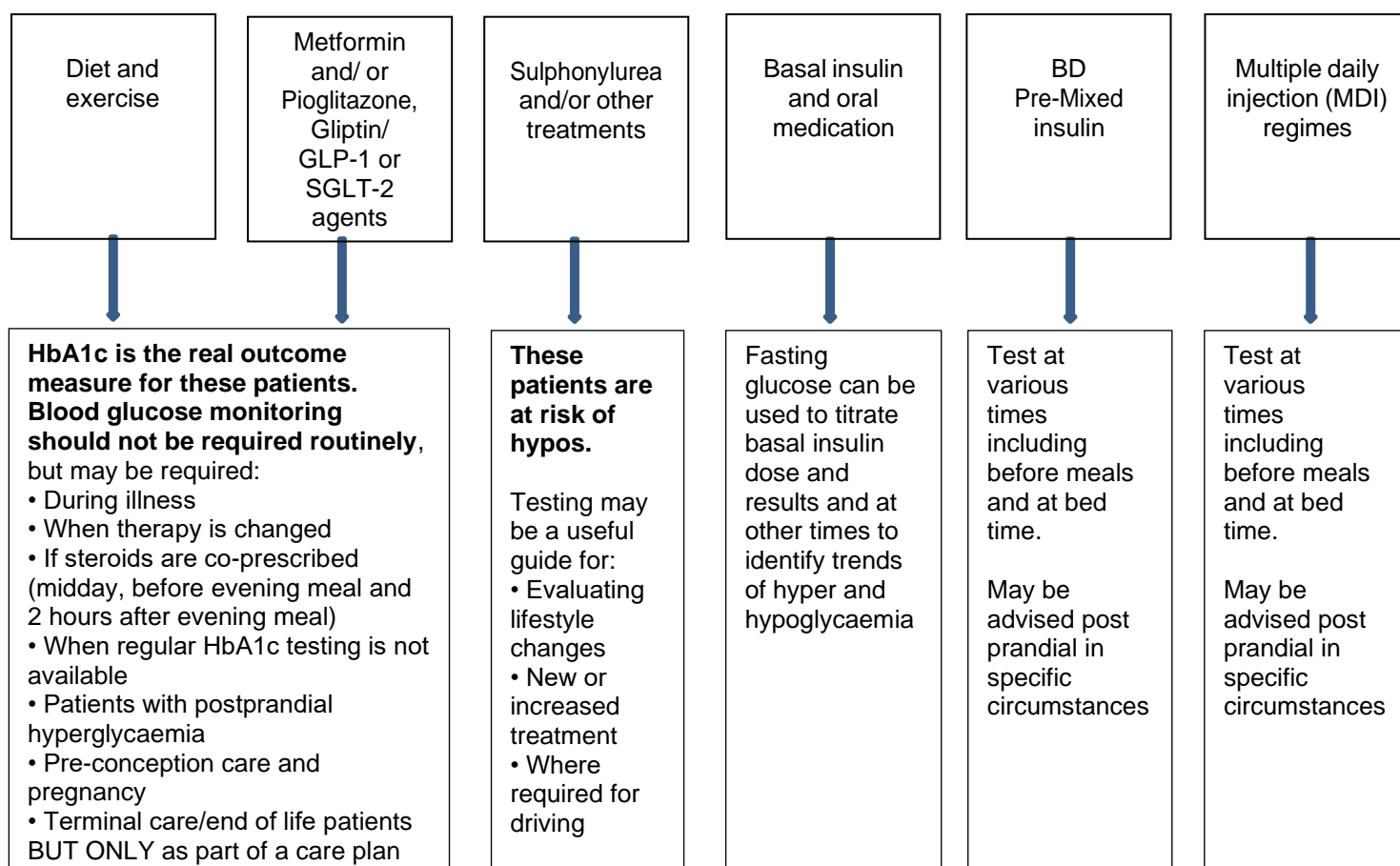
This guideline is designed to offer guidance for primary and secondary care on the use of self-monitoring of blood glucose in patients with Type 2 diabetes mellitus.

Type 2 Diabetes

Routine self-monitoring of blood glucose is not required if patients are well controlled, and on non-insulin therapy that will not increase the risk of hypoglycaemia (including oral treatment, diet and exercise control). Patient education should clearly identify potential situations where hypo and hyperglycaemia may arise. Examples of these include:

- Any non-minor illness
- Concomitant systemic steroid therapy
- Initiation of a sulphonylurea / insulin

People with Type 2 diabetes usually have more stable glycaemic control and therefore advice on the frequency of testing will reflect this as well as the treatment they are on. In practice, the level of monitoring will vary according to the treatment regime in use and the target level of glycaemic control set for the patient, and driving requirements.



Driving

The main issue in relation to driving and the law is the risk of hypoglycaemia.

- It is important that any patient who is using treatment(s) that can cause hypoglycaemia (insulin / sulphonylurea) has the means to test their blood glucose
- It is recommended that these patients test their blood glucose prior to driving, and at intervals (every 2 hours) during long journeys. Following hypoglycaemia and treatment to correct this, blood glucose must be in the normal range (above 5mmol/l) for 45 mins prior to resuming driving. There must be full hypo awareness at every episode
- For Group 2 and vocational licences, evidence is required of twice daily blood glucose testing and at times related to driving (no more than 30 mins before the start of the first journey and at two hourly intervals while driving). These patients must have a blood glucose meter with the facility to store a minimum of 3 months of results, which is reviewed annually by an appropriate medical professional. All meters in use must be reviewed. A meter with the facility to download results is recommended and all recommended meters in this guidance have this facility.
- Group 1 license holders must notify the DVLA if they have more than one episode of severe hypoglycaemia in the preceding 12 months
- Group 2 license holders must notify the DVLA if they have one episode of severe hypoglycaemia in the preceding 12 months
- More information on driving and diabetes can be found on the [Diabetes UK](#) and [DVLA](#) websites

Alternative Site Testing

These results **must be used with caution** in the following circumstances:

- When making frequent insulin dose adjustment decisions e.g. following new diagnosis
- During illness management
- Following exercise
- For hypoglycaemia management, especially if poor warning symptoms

Lancers and Lancets

- Each meter (see later) is supplied with a lancer and will require lancets on prescription
- Lancers (the finger pricking devices) are not available on prescription
- Replacement Lancers are available from companies (usually free of charge)
- Lancets are for single use only

Pen Needles for insulin injection devices

The recommended pen needles for the majority of patients are **GlucoRx FinePoint needles**, available in a full range of lengths; 4mm, 5mm, 6mm, 8mm, and 10mm (12mm is also available if needed). BD viva pen needles are also available in the following lengths: 4mm, 5mm, 8mm and are recommended as an alternative pen needle.

Where a safety needle is required to protect against needle stick injuries, the recommended pen needles are **mylife Clickfine AutoProtect needles**, available in 5mm and 8mm lengths. Safety needles are only recommended where insulin is administered by a third party, e.g. District Nurse, Care Home, or where patient has genuine needle phobia.

Both brands are compatible with all leading insulin injection device manufacturers including Eli Lilly®, Novo Nordisk AS® and Sanofi®.

The advantages of standardising this choice are consistency and cost effectiveness.

Blood Glucose Meters and Testing Strips

Blood glucose monitoring requires the use of appropriate equipment. The aim of this guidance is to limit the use of a wide variation of different blood glucose testing equipment across the locality. Advantages are; consistency, reduced risk of errors due to unfamiliarity with equipment, limited unnecessary prescribing, and cost effectiveness.

- Blood glucose testing should be used as part of a care plan for the management of diabetes following structured patient education which includes the purpose of testing
- The decision to change meters should be used as an opportunity to review the purpose of testing and the interpretation of results
- If a change in prescribed test strips is required, patients should be encouraged to use their current supply of test strips first, as long as the strips have not reached their expiry date and the current meter is in working order
- The majority of test strips expire within 90 days of opening. If one container usage is over a longer period than this, review of blood glucose monitoring needs is recommended
- Patients should be reminded to use control solutions/calibrate machines in line with manufacturer recommendations (as a minimum each time a new 'pot' of test strips is commenced)
- All the chosen meters are compliant with DVLA guidance, although the fully integrated device may encourage greater testing in Group 2/ vocational drivers
- All the chosen meters meet ISO standards and do not require coding

The recommended meters should meet the need for the majority of patients with Type 2 diabetes.

There still remains the need for specialist services to prescribe and recommend meters and strips that offer the facility for more specialized/specific requirements.

Blood Glucose Meters and Testing Strips

(Note for instructions on locating products on EMIS, please see appendix 1)

1st Choice Meter –
suitable for the majority
of patients:

Accu-Chek Instant
*existing patients may continue on Accu-Check Active
or Accu-Check Performa Nano

If not suitable to meet patient needs



2nd Choice Meters:

Contour Black Edition
*useful for patients where a larger meter is required

GlucRx Nexus Voice
*useful for visually impaired/eyesight problems

If not suitable to meet patient needs




3rd Choice Meter:


Only for patients who require strip-free testing due to occupation/ job, especially to comply with DVLA guidelines for Group 2 and vocational drivers license holders.


Accu-chek Mobile


NB. These meters and strips should be suitable for the majority (~80%) of patients. There still remains the need for 'specialist' services to prescribe and recommend meters and strips that offer the facility for more specialised/specific requirements.

Details of the test strips and lancers required on prescription for each meter are included in the table below.

	Meter Name	Test strips	Benefits	Lancets	Cost* (50 strips)	Company
1st Choice – meets the needs of the majority of patients	Accu-Chek Instant 	Accu-chek Instant test strips	<ul style="list-style-type: none"> - Small meter size - Easy to use - 4 second results - No sharps handling or disposal - 18 month test strip expiry (no difference to expiry once opened) - Large screen size – glow in the dark display - No coding required - Downloadable data - 720 test memory 	Accu-chek FastClix Lancing drum £5.90 for 204	£7.50	Roche Customer careline: 0800 701000 www.accu-chek.co.uk (NB specific site link for professionals)

2nd Choice - more specific requirement	Bayer Contour Black Edition 	Bayer Contour test strips	<ul style="list-style-type: none"> - 5 second results - Larger size meter - No coding required - 24 month test strip expiry once opened - 480 test memory - Downloadable data - 	Bayer Microlet lancets £3.90 for 100 £7.44 for 200	£9.99	Bayer (Now Ascensia diabetes care) Customer careline: 0345 600 6030 diabetessupport@ascensia.com www.diabetes.ascensia.co.uk
--	--	---------------------------	--	--	-------	--

	Meter Name	Test strips	Benefits	Lancets	Cost* (50 strips)	Company
2nd Choice - more specific requirement	GlucoRx Voice* 	GlucoRx Nexus test strips	<ul style="list-style-type: none"> - Talking meter for patients who are visually impaired - 5 second results - Downloadable data - 6 month expiry once opened 	GlucoRx lancets £4.50 for 200	£8.95	GlucoRx Customer careline: 01483 755133 www.glucoRx.co.uk info@glucoRx.co.uk

4th choice – select/ more specialised group of patients	Accu-chek Mobile 	Accu-chek Mobile test cassettes	<ul style="list-style-type: none"> - Strip free testing - Integrated lancing device - No sharps handling or disposal - Downloadable data - 5 second results - 90 days expiry once inserted into device 	Accu-chek FastClix Lancing drum £5.90 for 204	£9.99 per cassette of 50 tests	Roche Customer careline: 0800 701000 www.accu-chek.co.uk (NB specific site link for professionals)
---	---	---------------------------------	--	--	--------------------------------	---

Appendix 1: Finding recommended blood glucose products on EMISweb

Thanks to staff at Rickleton practice for sharing the below table for inclusion in this guideline

Name of blood glucose meter	Name of test strip	Name on EMISweb	Position on guideline
Accu-Chek Instant	Accu-check Instant test strips	Instant testing strips	1 st choice (suitable from the majority of patients)
Bayer Contour Black Edition	Bayer Contour test strips	Contour testing strips	2 nd choice (useful for patients where a larger meter is required)
GlucRx Voice	GlucRx Nexus test strips	GlucRx Nexus testing strips	2 nd choice (useful for visually impaired/eyesight problems)
Accu-chek Mobile	Accu-chek Mobile test cassettes	Mobile cassette	3 rd choice (only for patients who require strip-free testing due to occupation/job, especially to comply with DVLA guidelines for Group 2 and vocational drivers license holders)