

Blood Glucose and Ketones Self-Monitoring Formulary and Guidance

30th November 2023

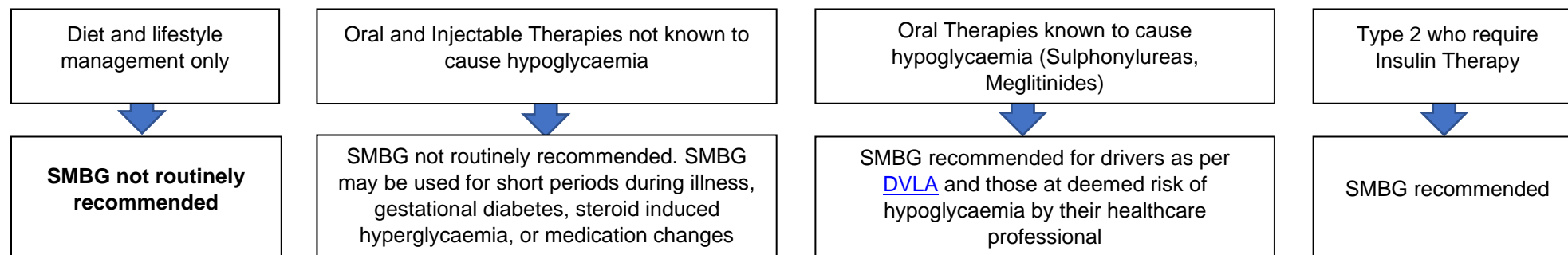
Approved by: WY ICS APC

Review date: November 2026

Contents

Meters for Adults with Type 2 Diabetes or Steroid induced hyperglycaemia* requiring SMBG.....	3
Meters for Adults with: Type 1 (T1) Diabetes, People on insulin with; ketosis Prone T2, maturity-onset diabetes of the young (MODY), other genetic diabetes types and diabetes secondary to pancreatic disease.....	4
Supporting guidance	6
Best practice points	6
When is self-monitoring of capillary blood glucose (SMBG) indicated?.....	6
Co-prescribing blood glucose testing strips (BGTS) for people using continuous glucose monitoring (CGM)	7
When is blood ketones testing indicated?	7
Lancets.....	8
Safety lancets.....	8
Sharps disposal.....	9
Review of guidance	9
Meter Contacts	10

Selection of Adults with Type 2 (T2) Diabetes Suitable for Self-Monitoring of Capillary Blood Glucose (SMBG)



Meters for Adults with Type 2 Diabetes or Steroid induced hyperglycaemia* requiring SMBG

1st Line: Contour® plus BLUE (Ascensia)



Prescribe on Repeat	Quantity	Cost
Contour Plus Test Strips	50	£5.95
Comfort Twist 30g lancets**	100	£2.69
or Microlet 0.5mm/28G lancets**	100	£2.99

2nd Line: Aga Matrix Agile® (AgaMatrix)



Prescribe on Repeat	Quantity	Cost
AgaMatrix Agile Test Strips	50	£5.99
Comfort Twist 30g lancets**	100	£2.69
or Microlet 0.5mm/28G lancets**	100	£2.99

For people who require a talking meter the first choice for new initiations is: **On Call Extra Voice** (£5.20 x 50 test strips). However before switching people with visual problems on other talking meters, they should be assessed on their ability to manage the change.

The meter choices above are intended for the **majority** of new initiations. We are aware that some services are monitoring people with diabetes using certain applications (apps) which require the use of a particular meter. These meters can be initiated and continued, so long as the cost per **50 strips is < £6** (ICB cost threshold). The new meter choices should be used where possible when tendering or renewing the use of blood glucose monitoring apps.

* Includes enhanced functionality/special populations such as Gestational Diabetes Mellitus

** Both lancet choices are universal lancets which work in any lancing device

Specialist Recommended Meters*

Meters for Adults with: Type 1 (T1) Diabetes, People on insulin with; ketosis Prone T2, maturity-onset diabetes of the young (MODY), other genetic diabetes types and diabetes secondary to pancreatic disease.

1st Line:

GlucoFix® Tech GK
(Menarini)



Prescribe on Repeat	Quantity	Cost
GlucoFix Tech Sensors Test Strips (glucose)	50	£5.95
GlucoFix Tech B-Ketone Sensors Test Strips (ketones)	10	£9.95
Comfort Twist 30g lancets**	100	£2.69
or Microlet 0.5mm/28G lancets**	100	£2.99

2nd Line:

4Sure Smart Duo
(Nipro Diagnostics)



Prescribe on Repeat	Quantity	Cost
4SURE Test Strips (glucose)	50	£8.99
B 4SURE beta-ketone Test Strips (ketones)	10	£9.92
Comfort Twist 30g lancets**	100	£2.69
or Microlet 0.5mm/28G lancets**	100	£2.99

For further information see: [The NHSE guidance for self-monitoring of glucose and ketones](#) and [The West Yorkshire ICB Commissioning Statement for SMBG](#)

All are recommended blood glucose meters from the NHSE guidance document (V1 24th April 2023). No calibration or coding of meters is required, and they have a shelf-life ≥3years. All prices listed in this guidance were correct as of October 2023. Switch if cost of strips exceed the price thresholds e.g. at annual review. Switch all meters at 3 years.

If safety lancets are required for administration by a 3rd party WY ICB recommends Neon Verifine Safety 28G x 1.8mm & 30G x 1.8mm (£2.99 x 100).

The meter choices above are intended for the **majority** of new initiations. We are aware that some services are monitoring people with diabetes using certain applications (apps) which require the use of a particular meter. These meters can be initiated and continued, so long as the cost is **< £10 for 50** glucose strips and **<£10 for 10** ketone strips (ICB cost thresholds). The new meter choices should be used where possible when tendering or renewing the use of blood glucose monitoring apps.

* Includes enhanced functionality/special populations

** Both lancet choices are universal lancets which work in any lancing device

Suggested Frequency of Testing (some people may need more intensive monitoring)

Treatment	Frequency (minimum)	Suggested minimum Quantity
Non-insulin therapy	Daily unless driving or deemed at risk of hypos	Glucose Strips: Max 1 box per month Lancets: 2 x 100 per 6 months
Insulin Type 2 Basal	Once Daily	Glucose Strips: Max 1 box per month Lancets: 2 x 100 per 6 months
Insulin Type 2 Biphasic	Twice Daily	Glucose Strips: 1 - 2 boxes per month Lancets: 2 x 100 per 3 months
Basal / Bolus	At least four times a day	Glucose Strips: 2 - 3 boxes per month Lancets: 2 – 3 x 100 per 2 months
Basal / Bolus Carbohydrate monitoring	At least six to eight times a day	Glucose Strips: 4 – 5 boxes per month Lancets: 2 – 3 x 100 per month
For Continuous Glucose monitoring (CGM)	When driving, hypo or reading inconsistent with symptoms	As per WY ICB CGM policy
Intensive testing	At least ten times a day	Glucose Strips: 6 boxes per month Lancets: 3 x 100 per month

Supporting guidance

Best practice points

In relation to self-monitoring, healthcare professionals should provide information and education for people with diabetes including:

- The correct usage of blood glucose meters (BGM) and blood glucose testing strips (BGTS)
- The appropriate frequency of testing and when testing is not clinically indicated
- Interpreting blood glucose results and what action to take when results are out of range
- How to maintain the BGM and when it will need replacing
- How to store BGTS (including shelf-life)
- Current Driver and Vehicle Licensing Agency (DVLA) requirements

At annual review healthcare professionals should assess:

- The quality, technique, frequency of testing & actioning of results
- The impact of glucose monitoring on quality of life, and the equipment used
- Offer of more training on self-monitoring skills and how to interpret and respond to their results if needed

When is self-monitoring of capillary blood glucose (SMBG) indicated?

SMBG is essential for people with any type of diabetes on insulin therapy, and gestational diabetes. It can be beneficial for people with type 2 diabetes taking hypoglycaemic agents such as sulfonylureas or glinides. Drivers on insulin therapy or oral antidiabetic agents that carry a risk of hypoglycaemia must have access to BGTS to allow them to adhere to the level of testing stipulated by the [DVLA](#).

[NICE](#) suggests SMBG should **NOT** be routinely offered to adults with type 2 diabetes unless:

- The person is on insulin or
- There is evidence of hypoglycaemic episodes or
- The person is on oral medication that may increase their risk of hypoglycaemia while driving or operating machinery or
- The person is pregnant or planning to become pregnant.

NICE also recommends that **short-term** SMBG is considered in adults with type 2 diabetes:

- For those starting treatment with oral or intravenous corticosteroids or
- To confirm suspected hypoglycaemia

The [DVLA Assessing fitness to drive: a guide for medical professionals](#) should also be considered when offering SMBG for adults with type 2 diabetes.

SMBG should be deprescribed with counselling where it is not clinically required.

People who are not clinically indicated for SMBG may still choose to test. In such cases, meters and test strips can be purchased from pharmacies and directly from manufacturers and should be **self-funded**.

Where suitable for SMBG, people should be advised that if they choose to purchase a BGM rather than one offered to them free of charge by the practice, they may also need to purchase the compatible test strips and as such should avoid funding the BGM themselves.

There may be certain circumstances where HbA1c is unreliable and SMBG may be indicated. For example, in haemoglobinopathy, anaemia, CKD4 or worse, or recent blood transfusion, HbA1c may be unreliable and SMBG or CGM may be the monitoring method of choice. See page 16 of [WHO report](#) for more information.

Co-prescribing blood glucose testing strips (BGTS) for people using continuous glucose monitoring (CGM)

People using CGM may still need to use a finger-prick capillary blood glucose test occasionally.

Please refer to the [West Yorkshire Health and Care Partnership commissioning policy for CGM](#) for more information including guidance on suggested quantities of BGTS required for different cohorts.

The following should be considered in relation to prescribing BGTS for people also prescribed CGM:

- Offer a meter with BGTS of the lowest acquisition cost in line with the cost thresholds of < £6 per 50 glucose strips.
- If a person needs to remain on a particular meter that is compatible with high-cost test strips, this should be advised by their diabetes specialist team (DST) and rationale provided.
- Prescribe test strips on acute prescription only and/or limit to 50 glucose strips per prescription issue.
- Monitor ordering patterns. People requesting more than the suggested quantities, or ordering frequently, should be reviewed.
- Meters recommended and strips prescribed must suit individual needs and circumstances.

When is blood ketones testing indicated?

The DST is best placed to identify those who would need to self-monitor blood ketones and advise which meter and test strips are appropriate for the individual. The DST will provide the meter and initial small supply of test strips.

All people with Type 1 diabetes should have access to blood ketones testing strips. Other high risk (including some Type 2 diabetes) people are required to test for ketones should generally be identified by the DST.

For indicated people with diabetes:

- A dual meter that can be used with both BGTS and blood ketones testing strips may offer improved convenience.
- A separate BGM may be required where a dual meter does not offer additional functionality (for people not using CGM).
- 3 x 10 blood ketones testing strip packs within a 12 month period is indicative of average use. Exceeding this amount should prompt a review, except in cases where a specialist has indicated that the patient requires more intensive ketone monitoring.
- If blood ketones testing strips are added to the repeat template, consider adding a minimum issue duration of 4 months or as recommended by the specialist, and consider adding a script note to indicate that more frequent ordering will trigger a review.
- Counselling should be provided in relation to the short expiry date of blood ketones testing strips.

Lancets

Lancets can be prescribed on the NHS although lancing and finger pricking devices are not allowed on prescription and, are usually supplied with the blood glucose meter or obtained by contacting the relevant manufacturer.

There are several universal lancets available which are compatible with most lancing devices.

Lancets are available in different lengths and gauges and as needles or blades. The higher the gauge (G), the smaller the diameter of the needle. Higher gauge needles are usually more comfortable, although lower gauge needles may be required for people not able to produce sufficient blood for an adequate sample with a higher gauge product. Generally, 30G lancets are suitable for most people.

All lancets are for single use only. People should be reminded to use a new lancet for each blood sample to reduce the risk of infection and discomfort due to blunting.

Safety lancets

Safety lancets do not require a lancing or finger pricking device and are designed to retract after use to prevent needle stick injuries. These are used mainly by healthcare workers (and professional carers) to avoid needle stick injury when taking blood to test a person's blood glucose or blood ketones level. Safety lancets must **not** be prescribed on prescription for this purpose. It is an employer's responsibility to meet the expense of and provide staff with these lancets (both public and private sectors).

In exceptional cases, a non-paid carer such as a relative may be assisting someone in testing their blood for glucose and ketones, and where there is a risk of disease transmission such as HIV or hepatitis. It may be appropriate in such circumstances to provide safety lancets on prescription. The gold standard is for all people who care for someone with diabetes to be provided with training on how to do so safely and

effectively. Providing safety needles does not replace the provision of education and training.

	Safety Lancets	Quantity	Cost
1st line option	Neon VeriFine Safety Lancets 28G x 1.8mm & 30G x 1.8mm	100	£2.99
2nd line option	GlucoRx safety lancets 23G, 26G, 28G, & 30G	100	£5.50

Sharps disposal

People with diabetes and their carers must be provided with education on the safe disposal of lancets using a sharps bin. Sharps bins can be prescribed on NHS prescription.

The mechanism for the disposal of full sharps bins varies depending on the local authority the person's home address is served by.

Some people may live within Local Authority areas where there is currently no provision for clinical waste collection by the council. In the first instance, the person with diabetes should enquire with their dispensing pharmacy if they are able to return full sharps bins to them for safe disposal. GP practices may also accept full bins. If people do not have access to sharps bin disposal services, this could pose a public health issue and as such queries regarding this should be directed to the relevant local authority.

When full sharps bins are returned to the pharmacy or GP practice, staff should not handle these, and they should allow the person to put their bin into the larger practice sharps bin themselves.

Review of guidance

This guidance and formulary will be reviewed in advance of the review date only in the event of a major new development in either the NHS England guidance, or in the products available to self-monitor blood glucose and ketones.

Meter Contacts

Machine	Company	Contact Information (confirmed October 2023)
Aga Matrix Agile	AgaMatrix	customercare@agamatrix.co.uk Will Spencer wspencer@agamatrix.com Mobile: 07827320510
Contour Blue	Ascensia	diabetessupport@ascensia.com Kirsty Oliver kirsty.oliver@ascensia.com Mobile: 07827320510
GlucoFix Tech Gx	A. Menarini Diagnostics	customersupport@menarinidiag.co.uk Sam Maylott - smaylott@menarinidiag.com Mobile: 07775585618
4SURE Smart Duo	Nipro Diagnostics	sales.support@nipro-group.com Pamela Barrie Manager Mobile: 07341696020 Switchboard: 023 8060 4300 Email: pamela.barrie@nipro-group.com
On Call Extra Voice	Connect 2 Pharma	info@oncallmeters.co.uk info@connect2pharma.co.uk Nick Robinson Switchboard: 020 3307 4646 Mobile: 07968446969 Email: nick.robinson@connect2pharma.co.uk