Self-Monitoring of Blood Glucose in Diabetes Guideline

Bath and North East Somerset, Swindon and Wiltshire Together

Who should be offered self-monitoring of blood glucose:

Type 1 Diabetes – all patients will need to self-monitor

Type 2 Diabetes - Do not *routinely* offer self-monitoring of capillary blood glucose levels for 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 is planning to become pregnant (NICE 2015).

Frequency of monitoring in Type 2 Diabetes

Diet and metformin	Not routinely offered	
DPP4i (gliptins), GLP-1 injectables, SGLT2 (gliflozins), pioglitazone	Not routinely offered	
Sulfonylureas	Maintenance – 2-3 x per week; drivers regularly	See DVLA guidance below.
	Initiation, titration – twice per day (different times)	
Basal insulin	Maximum twice daily	
Plus non SU antidiabetic	Once or twice a day	
Plus SU	Two or three times a day	
Basal insulin (twice per day)	Twice daily	
Mixed insulin	2-3 x per day	
Basal bolus insulin	4 x per day	

Note - all patients should be reviewed on an individual basis taking into account specific patient factors

Special Circumstances that may require more frequent SMBG testing (frequency to be agreed with patient):

- At diagnosis for 5-7 days to understand lifestyle interventions
- Pre-postprandial level to assist in drug choice at treatment intensification
- Co-prescribed steroids
- Intercurrent illness
- Frequent hypos
- Impaired hypo awareness
- Exercise

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Meters for Patients with Type 2 Diabetes

Any meter using test strips at a cost of below £7.50 for 50 that meets minimum criteria is within guidance. The following are approved by specialist teams across BSW as preferred options for new initiations and meters requiring replacement.

*In April 2023, NHSE published national commissioning recommendations for blood glucose and ketone meters, test strips and lancets Read more here. We reviewed these national recommendations in consultation with our specialist diabetes clinicians across BSW and in July 2023 added some comments to this local guidance. The national recommendations will be reviewed annually and will inform future versions of this local guidance which will continue to be produced in consultation with the BSW specialist diabetes teams.

Meter	Company Representative	Cost	Features	*May 2025 update
Contour Plus Blue	Murali Painter Mobile: 07469 912558 murali.painter@ascensia.com Ascensia Diabetes Support: 0345 600 6030	Contour Plus strips £5.95 (50) Microlet Lancets £2.99 (100) £5.98 (200)	SmartCOLOUR™ target range indicator. Second chance testing can reapply blood to the same strip for up to 30 seconds.	Remain a **first choice preferred option for new initiations and for meters requiring replacement**. This is in line with NHSE commissioning recommendations and endorsed by local specialist teams.
True Metrix Air	Steve Llewelyn Mobile: 07810 084661 E-mail: sllewelyn@trividiahealth.co.uk Alex Davies Email: ADavies@trividiahealth.co.uk Customer Care Freephone: 0800 689 5035	True Metrix strips: £5.95 (50) TruePlus lancets: £2.90 (100)	Connects to Diasend (software package used by specialist teams to review readings remotely).	Remain a **first choice preferred option for new initiations and for meters requiring replacement**. This is in line with NHSE commissioning recommendations and endorsed by local specialist teams.
Palmdoc 2	Helen Smithson Mobile: 07377 353732 Email: helen@palmdoc.co.uk Customer support: 0800 994 9995	PalmDoc strips £5.90 (50) PalmDoc lancets £2.85 (100)	Voice function to support visually impaired. Available to order in English, Bengali, Polish, Urdu & Arabic. Large display.	**Existing patients only**. These are not included in NHSE commissioning recommendations. Existing patients (low numbers across BSW) can continue to receive these until their meter needs replacing.

For those with Dexterity problems:

Accu-Chek Instant	Claire Hatcher Mobile: 07716 083632 Email: Claire.hatcher@roche.com	Instant test strips £5.95 (50) Fastclix lancets £5.90 (204) (sharps box not required to dispose of Fastclix lancets)	Target range indicator, large display, test strip wide dosing area. Bluetooth enabled - connects to mySugr diabetes app. Connects to Diasend	Remain **first choice locally for those with dexterity problems.** These are not included in NHSE commissioning recommendations but are endorsed by local specialist teams.

Note: Patients with dexterity problems using Accu-chek Mobile test strips in existing Accu-chek Mobile devices can continue to receive these test strips. The Mobile device is no longer made. When due to be replaced, switch to Accu-chek Instant.

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For those with gestational diabetes or type 2 diabetes for the pre-conception period and duration of pregnancy consider:

Meter	Company Representative	Cost	Features	*May 2025 update
Accu-Chek Instant	Claire Hatcher Mobile: 07716 083632 Email: Claire.hatcher@roche.com	Instant test strips £5.95 (50) Fastclix lancets £5.90 (204) (sharps box not required to dispose of Fastclix lancets)	Target range indicator, large display, test strip wide dosing area. Bluetooth enabled - connects to mySugr diabetes app. Connects to Diasend	**First choice at SFT.** These are not included in NHSE commissioning recommendations but are endorsed by local specialist teams.
Contour Next	Murali Painter Mobile: 07469 912558 murali.painter@ascensia.com Ascensia Diabetes Support: 0345 600 6030	Contour Next strips £16.21 (50) Microlet Lancets £2.99 (100) £5.98 (200)	SmartLIGHT™ target range indicator. Second chance testing can reapply blood to the same strip for up to 60 seconds. Connects to Contour Diabetes app.	**First choice at RUH.** These are not included in NHSE commissioning recommendations but are endorsed by local specialist teams.
AgaMatrix Jazz	AgaMatrix customer care team: Tel: 0800 093 1812 Email: customercare@agamatrix.co.uk	WaveSense Jazz strips £8.74 (50) AgaMatrix Comfort Twist Lancets £2.69 (100)	Small sample size, pre/post mealtime tagging. Compatible with electronic GDM Health system.	**First choice at GWH.** These are not included in NHSE commissioning recommendations but are endorsed by local specialist teams.
Use in pregnancy must be reviewed at the end of the pregnancy and changed to standard test strips and meter as per the table on **Page 2**.				

*Prices correct as of Drug Tariff May 2025 Drug Tariff | NHSBSA

Pregnancy T1DM, T2DM and Gestational DM – test 6-7 times a day

- BG targets for pregnant women with diabetes (NICE, 2015 updated 2020) as follows:
  - fasting – below 5.3 mmol/l,
  - 1h after meals – below 7.8 mmol/l, or 2h after meals: below 6.4 mmol/l.
- Pregnant women with T1DM are eligible for CGM. (In the form of procured rtCGM e.g., Dexcom G6/7, Medtronic Guardian provided by secondary care trusts OR prescribed rtCGM issued on FP10 after initiation by secondary care).
- Pregnant women with T2 diabetes on four times a day insulin regimen are eligible for CGM, 12 months inclusive of post-delivery period. (In the form of prescribed rtCGM issued on FP10 after initiation by secondary care).

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Please note: The updated NICE guidance NG28 and its recommendations for Continuous Glucose Monitoring (CGM) in T2 diabetes will be considered for funding in 2025. Our historic policy continues whereby people living with T2 diabetes can receive prescribable realtime (rt)CGM if they meet the criteria:

- Being treated with insulin and who are living with a learning disability as recorded on their GP Learning Disability register
- On haemodialysis and on insulin treatment who are clinically indicated as requiring intensive monitoring >8 times daily, as demonstrated on a meter download/review over the past 3 months
- Diabetes associated with cystic fibrosis on insulin treatment.
- NEW: Pregnant women with T2D on four times a day insulin regimen for 12 months inclusive of post-delivery period. Read our policy here BSW-ICB-CP052 - CGM - Diabetes Wearable Technology for Adults & Children

Initiating SMBG – Provide Appropriate Information to Support Person with Diabetes to SMBG.

1. **Agree individualized targets** - take into account age, co-morbidities, and clinical factors
2. **Agree purpose of testing, interpretation, and action**
3. **Provide patient information leaflets on SMBG, hypos, driving:**

   http://www.swindondiabetes.co.uk/guidance/publications-reports-resources/
   https://www.gov.im/media/1368805/diabetes-why-do-i-sometimes-feel-shaky-dizzy-and-sweaty.pdf
   https://www.gov.im/media/1368804/a5_driving_trend.pdf

Carry out a structured assessment at least annually

Type 1 Diabetes

Joint decision making should be used to agree the most appropriate meter for each individual.

All meters that meet current ISO standards may be considered for patients with Type 1 diabetes.

Suggestions are:

- **4Sure Smart Duo** (£8.99/50 strips) has the ability to test both blood glucose and blood ketones is advantageous with Type 1 Diabetes.
- **Accu-Check Aviva Expert (**£16.21/50 strips) no longer manufactured, existing people only. *At review* people not using the carbohydrate counting and insulin adjustment feature of the meter should be provided with a cost effective meter with features to support their requirements. Meters used with carbohydrate counting apps are an alternative.
- **Continuous Glucose Monitoring** may be a suitable option for T1 Diabetes patients as per NICE NG17. For Specialist DSN initiation only at routine review appointments, then GP prescribing until 6 monthly specialist review. See BSW formulary for prescribable CGM devices here
- For further information regarding differences between intermittent (is) and real time (rt) CGM system available on FP10 see here.

Alternative meters for specific indications to be initiated by diabetes specialists:	
Basal bolus, carbohydrate counting	Specialist choice appropriate to the person's individual requirements and circumstances. Includes options for cost effective meters (i.e., strips costing less than £7.50/50) used with an app. **Freestyle Libre handset** with Freestyle Optium test strips (£16.30/50 strips) Reserved only for those eligible under the ICB criteria for rtCGM or in exceptional circumstances via EFR route, where other carb counting options cannot be used.

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Frequency of SMBG monitoring – As per NICE guidance

Advise routine self-monitoring of blood glucose levels for all adults with Type 1 diabetes, and recommend testing at least 4 times a day, including before each meal and before bed.
Support adults with Type 1 Diabetes to test at least 4 times a day, and up to 10 times a day if any of the following apply: • The desired target for blood glucose control, measured by HbA1c level (individualised) is not achieved • The frequency of hypoglycaemia episodes increases • There is a legal requirement to do so for example driving • During periods of illness • Before, during and after sport • When planning pregnancy, during pregnancy and whilst breastfeeding • Pump therapy.
Enable additional blood glucose testing (more than 10 times a day) for adults with Type 1 diabetes if this is necessary for the person's lifestyle for example long periods of driving, undertaking high risk activity or occupation, travel, impaired awareness of hypoglycaemia.
If severe or frequent episodes of hypoglycaemia requiring third party assistance refer to specialist care for consideration for Continuous glucose monitoring. See BSW CCG CGM policy **here**

Links to relevant NICE NG17 guidance: here

DVLA Guidance for capillary glucose monitoring

	Group 1 drivers – cars and motorbikes	Group 2 drivers – bus or lorry
Insulin treated	At times relevant to driving (not more than 2 hours before the start of the first journey and every 2 hours while driving). More frequent monitoring may be required with any greater risk of hypoglycaemia.	At least twice daily including on days when not driving. On driving days, readings must be taken within 2 hours before the first journey and every 2 hours while driving. Memory function required to ensure 3 months of readings are available for assessment. More frequent monitoring may be required with any greater risk of hypoglycaemia.
Sulfonylurea or meglitinides	Regularly at times relevant to driving and clinical factors	At least twice per day and at times relevant to driving
GLP-1 , DPP4i, SGLT2, pioglitazone	No requirement	No requirement
Diet alone	No requirement	No requirement

See - 'Assessing fitness to drive– a guide for medical professionals for more details'
https://www.gov.uk/government/publications/assessing-fitness-to-drive-a-guide-for-medical-professionals

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DVLA precautions – if treated with insulin:

- Drivers must always carry their glucose meter and blood glucose strips with them
- Group 1 and 2 drivers can use their CGM system to check glucose levels unless the reading falls to 4mmol/L or below. They must stop driving and confirm with a finger prick glucose test reading
- Drivers should use a device that is medically approved for non-adjunctive use, meaning it is approved for making insulin treatment decisions based on CGM readings.
- They must check their blood glucose before driving and every 2 hours while driving
- If blood glucose is ≤5.0 mmol/L, the driver must take a snack; if it is <4 mmol/l, feel hypoglycaemic, or the reading is not consistent with symptoms being experienced, the driver should not drive
- If hypoglycaemia develops while driving, the driver should stop the vehicle as soon as possible
- The driver must then switch off the engine, remove the keys from the ignition and move from the driver's seat
- The driver must not resume driving until 45 minutes after blood glucose has returned to normal; it takes up to 45 minutes for the brain to recover fully
- The driver should always keep an emergency supply of fast-acting carbohydrate such as glucose tablets or sweets within easy reach in the vehicle

Review Date	**Updates Made**
Sept 2020	Adopted for use across BSW CCG
Dec 2020	NHSE info added on FSL for LD
July 2022	Added preferred range of meters for patients with T2D.
March 2023	Updated BSW ICB to include updated NICE Guidance and BSW ICB policy CP052
July 2023	Comment added on P2 about NHSE national commissioning recommendations publication
January 2025	Removed Glucomen Areo 2K meter and repaglinide as non-formulary, up to date CGM and DVLA information
May 2025	Table added for meters and test strips for the use of gestational diabetes and during pregnancy in T2DM.
April 2026	Update to DVLA driving rules for Group 2 drivers.

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