




Blood Glucose and Ketone Monitoring Guidance – Type 1 Diabetes

Choice of meter

Following a review of the NHS England [Commissioning recommendations following the national assessment of blood glucose and ketone meters, testing strips and lancets](#) BNSSG Diabetes Specialists recommend the following meters first line.

Meter	4SURE Smart Duo (Nipro)	CareSens Dual	GlucoFix Tech GK
			
Blood glucose test strips	4Sure £8.99/50 24 month expiry (no change on opening)	CareSens PRO £9.95/50 18 months expiry (no change on opening)	GlucoFix Tech Sensor £5.95/50 12-month expiry from opening bottle
Blood ketone test strips	4Sure β-ketone £9.92/10	KetoSens £9.95/10	GlucoFix Tech B-Ketone £9.95/10
Lancets	4 Sure	CareSens	Glucoject Plus
Meal markers	Yes	Yes	Yes
Memory	1000 memory that cannot be deleted and contactless download to smart devices	1000 memory that cannot be deleted. Bluetooth download to Smart Log app.	730 blood glucose results and 100 ketonemia results memory that cannot be deleted. Transfer via dedicated USB cable or built-in NFC.
Carbohydrate counting app	Carbohydrate counting and bolus advisor app Diabetes M	None	Carbohydrate counting app RapidCalc
Calibration	Automatic control solution detection/tagging	Self-calibrating meter. Control solution is available from the company	No coding required. Control solution is available from company.
	Cannot be provided for ketone testing alone	Can be provided just for ketone monitoring	Cannot be provided for ketone testing alone
Patient support	08000858808 www.niprodiagnostics.co.uk/patients	08008815423 www.spirit-healthcare.co.uk	0800 243 667 www.glucomenday.com
Supply of meters	08000858808	08008815423	0800243667

Prices correct March 24

Should the above meters not meet the needs of the patient alternative sub £10 for 50 blood glucose / and 10 ketone test strips meters can be selected from the [NHS E recommendations](#). Patients should not be switched to or initiated with meters that are not included in these recommendations unless a specific exemption below applies in which case the stated meter may be required.

Exemption		Meter	Test strips
Insulin pump	Medtronic 640/670g	Ascensia (Bayer) meters – Contour next link	Contour next £15.95/50
	Medtronic 780g	Accu-chek Guide Link	Guide £16.21
	Roche Spirit Combo	Accu-Chek Aviva Combo	Aviva £12.99/50

Please note the above exceptions are subject to change as required to align with the National framework

Information on Self-Monitoring of Blood Glucose (SMBG)

All patients with type 1 diabetes who are using Continuous Glucose Monitoring (CGM) will still need to take capillary blood glucose measurements (although they can do this less often). This is because:

- they will need to use capillary blood glucose measurements to check the accuracy of their CGM device
- they will need capillary blood glucose monitoring as a back-up (for example, when their blood glucose levels are changing quickly or if the device stops working).

If a patient cannot use or does not want to use CGM they should be offered capillary blood glucose monitoring. Adults who are using SMBG to **routinely self-monitor** their glucose levels should test blood glucose at least 4 times a day (including before each meal and before bed) and up to 10 times a day if:

- The desired target for HbA1c is not achieved
- The frequency of hypoglycaemic episodes increases
- There is a legal requirement to do so (such as driving)
- During periods of illness
- Before, during and after sport
- When planning pregnancy, during pregnancy and while breastfeeding
- There is a need to know blood glucose levels more than 4 times a day for other reasons eg impaired awareness of hypoglycaemia, high risk activities.

Additional blood glucose testing (more than 10 times per day) should be enabled if necessary in adults using SMBG to **routinely self-monitor** their glucose levels because of their lifestyle for example, driving for a long period of time, undertaking high-risk activity or occupation, travel) or, if the person has impaired awareness of hypoglycaemia

- Patients should be taught how to INTERPRET and ACTION results
- Patient education is vital - SMBG is only as good as the way it is used
- Patients with a car or motorcycle license must notify the DVLA
- Patients should check glucose levels no more than 2 hours before the start of first journey & every 2hrs whilst driving
- There are additional requirements for patients with a bus, coach or lorry license - see guidance

DVLA information on diabetes

<https://www.gov.uk/diabetes-driving>

Diabetes UK information on driving

<https://www.diabetes.org.uk/guide-to-diabetes/life-with-diabetes/driving>

Number of blood glucose test strips required on prescription

	Frequency of testing	Number of boxes (of 50) every 2 months
Patients using CGM	As required to check CGM accuracy or as a back up	1
Adults*	4 times a day	5
	10 times a day	12
	More frequent testing	13+
Children*	5 times a day	6
	More frequent testing (10 times a day)	12

*This is a guide only (there should be no restriction on the number of test strips provided). The number of test strips required should be guided by the patient and diabetic specialist.

Ketone self-monitoring to prevent diabetic ketoacidosis

Consider ketone monitoring as part of 'sick-day rules' for adults with type 1 diabetes, to help with self-management of hyperglycaemia and advise patients to maintain a supply of ketone strips to support this. Trend leaflet – [Type 1 diabetes – what to do when you are ill](#)

References and further guidance

NICE NG 17 Type 1 diabetes in adults: diagnosis and management

NICE NG 18 Diabetes (type 1 and 2) in children and young people: diagnosis and management

[NHS England Commissioning recommendations following the national assessment of blood glucose and ketone meters, testing strips and lancets](#) (April 2023)

For information on meters in Type 2 diabetes and Meters for gestational diabetes see BNSSG Type 2 Diabetes Glucose Monitoring guideline

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