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Bwrdd Iechyd Prifysgol
Abertawe Bro Morgannwg
University Health Board

Recommended Meters for Patient Blood Glucose Monitoring April 2018

Home Blood Glucose Monitoring in Adults.

1. To ensure the benefit of self-monitoring of blood glucose, it should only be offered as an integral part of self-management education, discussing its purpose and agreeing how it should be interpreted and acted upon.
2. Self monitoring of blood glucose in type 2 diabetes should be available to: those on insulin, those on oral glucose lowering medications to provide information on hypoglycaemia, assess changes in glucose control resulting from medications and lifestyle changes, monitor changes during inter-current illness, ensure safety during activities, including driving.
3. If self-monitoring is appropriate but glucose monitoring is unacceptable to the individual, discuss the use of urine glucose monitoring.
4. There should be no blanket ban on Home Blood Glucose Monitoring. Some people may need to test more frequently than others. Some people are currently testing more than they need to. The recommendations on frequency and timing of testing are intended for **medically stable** patients. Patients are not regarded as stable if the following apply and people need to test more frequently if: **-In times of acute illness, attending for outpatient procedures (e.g. dialysis, chemotherapy), if symptomatic, following medication (e.g. steroid started)/dose changes/insulin started, if pregnant or planning a family or breast feeding, if specifically advised to do so by medical staff, pre and post exercise, pre and during a car journey if driving over 2 hours, suspected or confirmed unawareness of hypoglycaemia, regular and/or disabling hypoglycaemia and those living alone who may be at increased risk of falls.**
5. Those self-monitoring blood glucose should be assessed at least annually with continuing education in a structured way to ensure: self-monitoring skills, the quality and appropriate frequency of testing, acting on results, interpreting signs and symptoms, the impact on quality of life, continued benefit of testing, the equipment used (coding, quality assurance, cost effectiveness), HbA1c.
6. Meter choice should be based on individual patient needs and ongoing cost of HBGM. Changing existing meters may cause confusion to some patients-where appropriate patients existing supply of strips should be utilised before changing meter. Currently, One Touch Select +, Accu-Chek Performa, Contour and Contour Next strips are available at a considerably lower NHS price than alternative products.
7. Patients should be encouraged not to buy their own meters as they will be provided free of charge by the Diabetes Clinic or practice nurses - **this will allow appropriate training on use.**
8. DVLA guidelines for all patients on insulin recommend testing before driving and at 2-hour intervals during long journeys. In many cases this will increase the number of testing strips needed. Group 2 drivers also have more frequent testing requirements. Sulphonylurea/nateglinide/repaglinide patients are advised to monitor blood glucose regularly at times relevant to driving.
(<http://www.dft.gov.uk/dvla/medical/ataglance.aspx>)

The importance of 3-6monthly Hb1Ac levels as an excellent indicator of long-term control should be emphasised to provide clinicians with information on the management of the condition.

Urine and Blood glucose test strips and lancets should not be issued on a repeat prescription without 6-monthly review.

Recommended Meters for Initiation in primary Care

The meters in the following section should be considered as 'suggested' meters for patient monitoring in adults with non complex type 2 diabetes. Patient clinical needs, choice and preferences should be respected in order to establish compliance with their suggested monitoring programme.

Upgrading existing meters may be undertaken if there is a need, however no changes should be made unless a comprehensive review of the patients monitoring requirements, compliance with monitoring parameters and monitoring technique with their existing meter has been completed.

Patients must be trained on how to use their meter and made aware of the purpose of monitoring (why, how, when and action). For cost effective monitoring to be achieved, patients must be able to interpret and analyse their results and decide what action to take – or – to provide the Health Professional with appropriate information to assess and maintain their glycaemic control.

The suggested meters will be subjected to constant review, to accommodate any improvement in meter technology.

These recommended meters hopefully encompass most patient requirements such as:

- Simplicity / ease of use / easy to carry around
- Features that will accommodate patient problems with visual impairment, dexterity, sore fingers, needle phobias etc.
- Elimination of interfering factors / substances / operator errors
- Wide haematocrit range
- Good IT, meal markers, computer download facility
- Greater strip stability to prevent wastage
- Improved accuracy and precision. ($\pm 15\%$ working towards $\pm 5\%$)
- Patient preference
- Manufacturers support with education, literature, supplies etc
- Ketone testing










The selected meters have all shown good accuracy and precision when compared with corresponding YSI 2300 results obtained in our laboratory. Unfortunately the MHRA have stopped their independent evaluation service, but where possible other evaluation data has been sourced and the selected meters show compliance with the new ISO 15197 June 2013 standards, and have a CE quality mark.

“While test strips dispensed in primary care may appear to have a premium cost, the wider cost to the patient’s quality of life, their safety, ability to work, drive and to the NHS of complications of uncontrolled diabetes and hospital admissions, far outweigh these costs.” Diabetes UK.



Recommended Meters for Patient Blood Glucose Monitoring

(For patients new to monitoring and upgrading meters as required)











Roche	Ascensia	Lifescan
Accu-Chek Performa Nano	Contour Black	One Touch Select Plus
		
Name of Strips		
Performa blood glucose strips	Contour test strips	One Touch Select Plus Test Strips
		
Cost of 50 Strips		
£9.95	£9.95	£9.99
Opened strip pot stable until expiry	Opened strip pot stable until expiry	Opened strip pot stable until expiry
Features of Meter		
Larger strip ♦easier to handle ♦easy-fill with wide sample area ♦safe sharps disposal ♦meal marker facility and reminder alarms to test can be defined by user.	Delivered preset as a basic easy to use meter, but also has optional access to more advanced features. Memory will store 480 results. Results can be downloaded to computer via USB cable.	Colour-coded indicators for low, high and in range results ♦meaning of error codes displayed on screen ♦pre and post meal tagging and bespoke ranges available.
Ideally suited for		
Suitable for most Type 2 diabetic patients and Type 1 patients requiring an uncomplicated meter. ♦Safe sharps disposal eliminates the need for a sharps bin. *Suitable for alternative site testing.	Suitable for most Type 2 diabetic patients and Type 1 patients requiring an uncomplicated meter. *Ideally suited for a direct switch (no additional training required) with the old (non ISO compliant) Contour meter. *Not suitable for alternative site testing.	Enabling patient awareness and appropriate action of results. ♦Suitable for most Type 2 diabetic patients and Type 1 patients requiring an uncomplicated meter. ♦ Not suitable for patients on oxygen therapy. *Not suitable for alternative site testing.
Name of Lancets		
FastClix Lancets £5.90/204	Microlet lancets £7.44/200	One Touch Delica Lancets £5.85/200
Lancing Device		
		
Customer Care Contact Details		
0800 040 7221	0845 600 6030	0800 121 200
Company Representative Details		
Liz 07525 766455 Liz.grace@roche.com	Chris 07836 567102 chris.phennah@ascensia.com	Julia 07813 878597 Jcoffey4@its.jnj.com

Meters for Patients with Special Requirements

The meters in the following section can be considered for patients with specialist requirements. They may be started in primary care but only by nurses who have specialist knowledge of diabetes and of the meters which they are recommending.

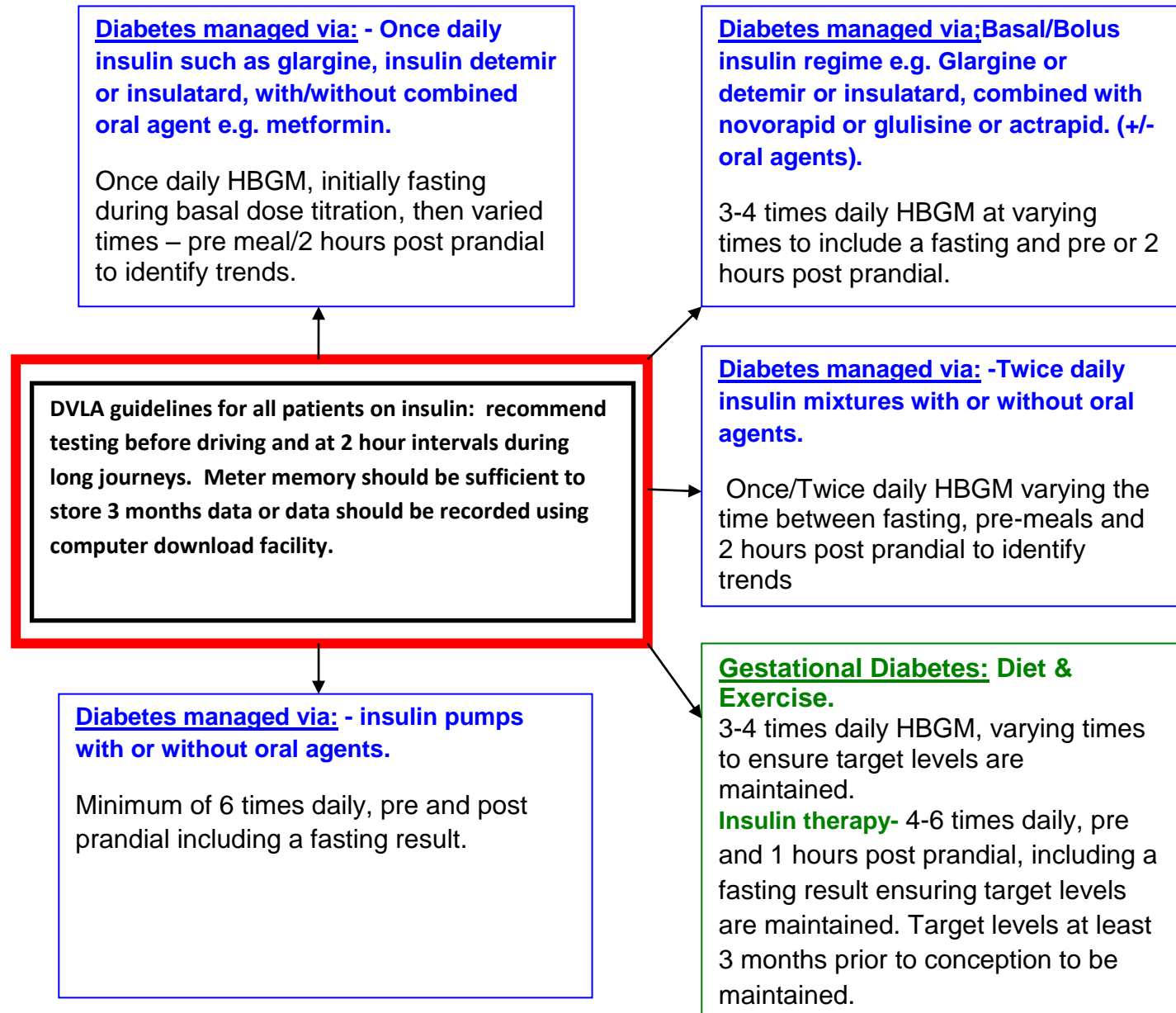
Roche	LifeScan	Abbott	Ascensia	Ascensia
Accu-Chek Mobile	One Touch Verio / Verio IQ	FreeStyle Optium Neo	Contour XT / Next	Contour Next One
				
Name of Strips				
Mobile cassette	One Touch Verio Test Strips	Optium Plus test strips	Contour Next Test Strips	Contour Next Test Strips
				
Cost of 50 Strips				
£9.99	£15.12	£15.64 (£20.63 ketone)	£15.04	£15.04
Cassette stable for 3 months after opening	Strip pot stable for 6 months after opening	Strips foil wrapped; stable until expiry	Opened strip pot stable until expiry	Opened strip pot stable until expiry
Features of meter				
Accu-Chek Mobile is an all-in-one strip free meter with an integrated lancing device *Safe sharps disposal eliminates the need for a sharps bin. *Discreet testing.	Colour-coded indicators for low, high and in range results *Reassuring progress notes and meaning of error codes displayed on screen.	Glucose and ketone testing on same meter ♦blood glucose trend indicators and insulin dosing guide helps users take an active role in managing their diabetes. Trust meter for POC testing ♦used by district nurses.	Incorporates simple mode or patient empowering mode ♦meal marker facility ♦ reminder alarms to test	Colour-coded indicators for low, high and in range results.*wirelessly transfers results to app on Smartphone *sharing of reports *capture notes on food, carbs, medication, activity
Ideally suited for				
All in one design encourages adherence to suggested monitoring regime.*Favoured by patients 'on the go' as 'hassle free' testing anywhere. *Useful for patients with poor dexterity.	Patients that would benefit from enhanced IT facilities. ♦Identifies and alerts high and low glucose patterns ♦Empowering patient understanding and action of results	Ketone testing for patients at risk of DKA. Meter includes features that that would benefit type1 and type2 patients on insulin ♦patients where district nurse calls	For patients on insulin or other therapies that put them at risk of hypoglycaemia	Patients that would benefit from enhanced IT facilities. ♦Identifies and alerts high and low glucose patterns ♦Empowering patient understanding and action of results *sharing of results
Name of lancets				
FastClix lancets £5.90/204	One Touch Delica Lancets £5.85/200	Abbott Thin Lancets	Microlet lancets £7.47/200	Microlet lancets £7.47/200
Lancing device				
				
Customer Care Contact Details				
0800 040 7221	0800 121 200	0500 467 466	0845 600 6030	0845 600 6030
Company Representative Details				
Liz 07525 766455	Julia 07813 878597	Michelle 07760 254486	Chris 07836 567102	Chris 07836 567102

Specialist Meters Only for Initiation by DSN

Accu-Chek Aviva Expert / Combo / Insight			
	<ul style="list-style-type: none"> • Bolus calculator • Useful for patients adjusting insulin dose • Carbohydrate counting • Insulin pump therapy 		<p style="text-align: center;"><u>Prescription Details</u></p> <ul style="list-style-type: none"> • Aviva test strips • FastClix Lancets
Spirit Healthcare / CareSens N Voice			
	<ul style="list-style-type: none"> • Talking meter • Strip pot stable until expiry date / cost £12.75 • Suitable for blind and visually impaired patient • Must be ordered specifically for individual patient • Ordering and patient training available via the diabetes centre. 		<p style="text-align: center;"><u>Prescription Details</u></p> <ul style="list-style-type: none"> • CareSens N Test Strips • Mylife Safety lancets • Mylife safety lancets are single use and require no insertion into a lancing device, thus enabling less handling for visual impairment. • Contact: 07880 195470 david.inglefield@spirit-healthcare.co.uk • Customer Care: 0800 8815423
Abbott FreeStyle Insulinx			
	<ul style="list-style-type: none"> • Flexible mealtime insulin calculator • Dosing advice based on blood glucose target range, active insulin and carbohydrates consumed. • Takes into account all the variables that make calculating dose difficult 		<p style="text-align: center;"><u>Prescription Details</u></p> <ul style="list-style-type: none"> • FreeStyle Lite Test Strips • FreeStyle Lancets
Contour Next Link			
	<ul style="list-style-type: none"> • Wireless transmission of blood glucose test results to Medtronic insulin devices. • Fast and easy bolus dosing and continuous glucose monitoring calculation • Connects directly to computer for instant access to test results and trends, as well as for recharging the battery 		<p style="text-align: center;"><u>Prescription Details</u></p> <ul style="list-style-type: none"> • Contour NEXT test strips • Microlet Lancets
Contour Next USB			
	<ul style="list-style-type: none"> • Logs blood glucose, carbohydrate and insulin information for a more complete picture • 2000 on board test memory • On board Glucofacts software • Useful backup meter for Contour Next Link (pump meter) if a problem should occur. 		<p style="text-align: center;"><u>Prescription details</u></p> <ul style="list-style-type: none"> • Contour NEXT test strips • Microlet lancets

Healthcare Professionals must be trained on these recommended meters – certified (MHRA compliant) training, thus enabling HCP to train their patient on use of meter and address any problems patient might be experiencing.


RECOMMENDED HOME BLOOD GLUCOSE MONITORING FREQUENCY IN MEDICALLY STABLE ADULT TYPE 2 DIABETES PATIENTS.





Abertawe Bro-Morgannwg University Local Health Board

Authorisation form for items to be published onto COIN

Title of Guideline	Recommended Meters for Patient Blood Glucose Monitoring
Name & Signature of Author / Chair of Group or Committee *	Alan Clatworthy
Coin ID:	CID1676
Library on which you wish the guideline to be launched	Diabetes
Document: Is the Document New, Modified, Reviewed, Supersedes another Document. List Version	Modified
Effective Practice Approval Committee (EPAC) All Policy Documents or if <ul style="list-style-type: none"> The document relates to primary care or both primary, secondary care and specialist care Multiple directorates/ teams within secondary care are highlighted in the document The document relates to a new service or a new way of working There are cost or safety implications associated with adopting the document	
Equality Statement on all Policies:*	
Is this document relevant to the GP portal?	
Published	April 2018
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Last Review:	Modified (June 2018)
Next Review / Guideline Expiry:	June 2020
Name of Group or Committee *	Medicines Management Operational Board
Name & Signature of Lead Pharmacist*	Alan Clatworthy Clinical Effectiveness Pharmacist 

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