

## Blood Glucose Test Strips

### **KEY MESSAGE: Ensure appropriate use of cost effective blood glucose test strips (BGTS) in adult patients with Type 2 Diabetes**

- Management of Type 2 Diabetes is multifactorial; care should be **individualised to the patient**.
- Resources should be focused on interventions which are likely to improve symptoms and reduce the risk of macro vascular and microvascular complications, such as lipid and blood pressure control, smoking cessation, education on nutrition, foot care etc<sup>1</sup>.
- **Self-monitoring of blood glucose (SMBG) should only be used when accompanied by structured education**, involving instructions as to the place of monitoring and how results can be used to reinforce lifestyle changes or adjust therapy<sup>2</sup>.
- Evidence suggests that SMBG is of **limited clinical effectiveness** in improving blood glucose control in patients **with Type 2 Diabetes on oral therapies or diet control** and therefore is **unlikely to be cost effective**<sup>3</sup>.
- NICE<sup>4</sup> recommends that SMBG should **not** routinely be offered 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<sup>5</sup> **or** operating machinery (see **DVLA Medical Standards of Fitness to Drive** [click here to access](#)) **or**
  - the person is pregnant, or is planning to become pregnant
- Patients should understand the benefits of monitoring and **understand how to interpret the results**.
- Those who gain no clinical benefit from continuing to test should be discouraged.

### **QIPP Project: Low cost BGTS for patients with Type 2 Diabetes**

- **CCGs in Norfolk & Waveney** spend approx. **£3,498,000** on blood glucose test strips per year.
- Prescribing of BGTS should be **reviewed** to ensure that **testing is appropriate** (see *key messages overleaf*) and quantities reduced, if appropriate, to avoid wastage. (See *advice below*).
- **Where appropriate (see advice below), low cost blood glucose test strips (<£10/ box of 50)** should be used **first line**. There are now a variety of lower cost brands available.

**A full comparison table is available on Knowledge Anglia<sup>6</sup> [click here to access](#) (N3 connection needed) including:-**

- Cost-effective choices
- Meters meeting accuracy requirements (ISO: 15197:2013)
- Contact details for free meters
- Useful practical information

## What are the DVLA blood glucose monitoring requirements for people with Type 2 diabetes driving cars or motorcycles - Group 1\* licence holders?

- Patients managed by **oral treatments which carry a risk of inducing hypoglycaemia** i.e. sulphonylureas or glinides<sup>5</sup>:
  - Must **not** have had **more than one episode of hypoglycaemia** requiring the assistance of another person **within the preceding 12 months**, otherwise must contact DVLA.
  - It **may be** appropriate to monitor blood glucose regularly and at times relevant to driving.
- Patients managed by **oral treatments other than those above or non-insulin injectable** treatment:
  - **No** recommendations from DVLA for monitoring for Group 1 licence holders.
- Patients managed by **insulin** treatment:
  - Must have **full awareness of hypoglycaemia**
  - Must **not** have had **more than one episode of hypoglycaemia** requiring the assistance of another person **within the preceding 12 months**, otherwise must contact DVLA.
  - **Must** carry out **appropriate blood glucose monitoring**

*N.B. The monitoring requirements for patients at risk of hypoglycaemia reinforce the need to ensure that the most cost effective BGTS are prescribed, and that patients are aware of how to interpret and act on the results.*  
*\* For details of requirements for GROUP 2 licence see DVLA guidance<sup>5</sup> [click here to access](#)*

## Advice for Prescribing and Reviewing BGTS

- For newly diagnosed **adult patients**, with **Type 2 Diabetes** who **require SMBG**, use **low cost BGTS**.
- **Switching patients** from their current BGTS to a more cost effective option should be carried out **in consultation with the patient** with education on how to use the new meter - **NOT VIA A BULK SWITCH**.
- Pharmacy / dispensary staff can be involved in switching to low cost BGTS and training patients on how to use their new meter.
- If a switch is appropriate **remember to take the previous BGTS off repeat** and also **change to cost effective lancets**.<sup>7</sup>
- **At annual review**, check:
  - Monitoring is appropriate, bearing in mind whether the patient drives.
  - Self-monitoring skills
  - The quality and frequency of testing
  - How the results are used and the impact on quality of life – is there benefit from continuing to test?
  - Quantities of BGTS are appropriate
  - The equipment used – discuss with patient the possibility of changing existing meter and BGTS to low cost option (*if appropriate*)
  - Ensure the patient uses up existing stock of BGTS before issuing new meter and supply of BGTS.
  - Inform local pharmacy / dispensary of the change so they can support the patient with the new meter.

### SPECIFIC METERS MAY BE REQUIRED FOR SOME PATIENTS<sup>6</sup> e.g.

- **Type 1 Diabetes:** *may have insulin pump, test ketones, use carbohydrate counting meters.*
- **Children:** *need to consider safety / convenience / continued engagement with testing.*
- **Pregnant:** *may need to test for ketones*
- **Dexterity problems:** *some meters / lancing devices etc. may be more appropriate*
- **Visual impairment:** *care needed but appropriate cost effective choices are available.*

**Freestyle Libre<sup>®</sup>** for use by patients with type 1 or type 2 diabetes is currently **not recommended** ([TAG Double Red](#)). FreeStyle Libre<sup>®</sup> is not considered to be cost effective and in the absence of a positive recommendation from the National Institute for Health and Care Excellence, is not recommended for funding in primary or secondary care until the benefits in restricted groups of patients can be determined.

### References

1. National Prescribing Centre QIPP Key Therapeutic Topics [http://www.npc.nhs.uk/qipp/qipp\\_elearning/self\\_monitoring\\_of\\_blood\\_glucose\\_elearning.php](http://www.npc.nhs.uk/qipp/qipp_elearning/self_monitoring_of_blood_glucose_elearning.php)
2. Self monitoring of blood glucose in non-insulin-treated Type 2 diabetes A report prepared by a NHS Diabetes Working Group [www.diabetes.nhs.uk/document.php?o=238](http://www.diabetes.nhs.uk/document.php?o=238)
3. Clar C, et al. Self-monitoring of blood glucose in type 2 diabetes: systematic review. Health Technol. Assess 2010;14(12) <http://www.hta.ac.uk/project/1870.asp>
4. NICE Clinical Guideline 87 Type 2 diabetes - newer agents (a partial update of CG66) 2009 <http://guidance.nice.org.uk/CG87/NICEGuidance/pdf/English>
5. At a glance guide to the current medical standards of fitness to drive, Driver and Vehicle Licensing Agency May 2012 <http://www.dft.gov.uk:80/dvla/medical/ata glance.aspx>
6. BGTS Meters and Test Strips Cost comparison: <http://www.knowledgeanglia.nhs.uk/LinkClick.aspx?fileticket=f1WRce-wkUE%3d&tabid=892&portalid=1&mid=1927>

<b>Title</b>	<b>KEY MESSAGES Bulletin 22 Blood Glucose Testing Strips</b>
<b>Description of policy</b>	<i>To inform healthcare professionals</i>
<b>Scope</b>	<i>Prescribing information related to diabetic blood glucose testing strips in Type 2 Diabetes for patients who are diet controlled/ on oral hypoglycaemics alone.</i>
<b>Prepared by</b>	Prescribing & Medicines Management Team ( LS) in conjunction with Specialist Diabetes Nurse (JW)
<b>Evidence base / Legislation</b>	Level of Evidence: <i>A. based on national research-based evidence and is considered best evidence</i> <b><i>B. mix of national and local consensus</i></b> <i>C. based on local good practice and consensus in the absence of national research based information.</i>
<b>Dissemination</b>	Is there any reason why any part of this document should not be available on the public web site? <input type="checkbox"/> Yes / No <input checked="" type="checkbox"/>
<b>Approved by</b>	<i>Norfolk &amp; Waveney Prescribing Reference Group V1.0 (6.6.13) V2.0 (19.6.14)</i> <i>Senior Prescribing &amp; Medicines Management Team</i>
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<b>Review date and by whom</b>	Dec 2019 Prescribing & Medicines Management Team
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#### Version Control (To be completed by policy owner)

Version	Date	Author	Status	Comment
0.9	18.1.13	Prescribing & Medicines Management Team LS & Specialist Diabetes Nurse JW	Draft	emailed to Network Group members for comment.
0.91	18.1.13	Prescribing & Medicines Management Team LS. MC & Specialist Diabetes Nurse JW	Draft	DC comment clarification of NHSN&W spend statement.
0.92	6/2/13	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Draft	BGTS table updated with icare lancets price
0.93	18.2.13	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Draft	Amended in line with comments from Prescribing Reference Group: Key message statement, DVLA advice, NHSN & W QIPP info, advice for review clarified.
0.94	6.3.13	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Draft	Amended in line with further comments from JW & Network Group- Decision to add back in information relating to BGTS in patients with Type 2 Diabetes on insulin and take out cost/% target values.
0.95	10.4.13	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Draft	New logo added. Suggested choices box removed and replaced with clear link to full comparison table on Knowledge Norfolk.
0.96	12.6.13	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Draft	Ratified with minor amendments Prescribing Ref Group 6.6.13
1.0	25.6.13	Prescribing & Medicines Management Team LS.MC & Specialist	FINAL	Ratified by Drug & Therapeutics Commissioning Group 20.6.13

		Diabetes Nurse JW		
1.1	13/6/14	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	Update	NEL CSU template. Low cost BGTS clarified as <£10 / 50 strips. Ratified by Senior Prescribing & Medicines Management Team
2.0	19.6.14	Prescribing & Medicines Management Team LS.MC & Specialist Diabetes Nurse JW	FINAL	
2.1	17/12/15	Prescribing & Medicines Management Team LS.MC	Update	Updated with Nice Guidance NG28. Accuracy requirements of meters reference. Note to change lancets at time of switching BGTS added. Spend figure updated
2.2	4/12/17	Prescribing & Medicines Management Team LB Update	Update	Reference to Freestyle Libre added. Reference to pharmacies and dispensaries supporting switch added.