

Blood Glucose Test Strips in Type 2 Diabetes

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**.
- Self-monitoring of blood glucose (SMBG) is essential for people with diabetes on insulin therapy and can be beneficial for *some* people on other hypoglycaemic agents. However where SMBG is not serving a specific purpose in the management of the condition, it is likely to be a waste of resources and can cause unnecessary pain to the patient. Some studies have even shown anxiety and depression associated with self-monitoring of blood glucose¹.
- 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**².
- **For adults with T2DM, NICE³ recommends that SMBG should **not** be routinely 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 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.

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 glinides⁴: DVLA [INF188/2](#)
 - 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: DVLA [INF294](#)
 - 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. 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 guidance⁴ [click here to access](#)**

QIPP savings: *Cost-effective BGTS for patients with Type 2 Diabetes*

- Practices in Norfolk & Waveney spend approx. **£2,796,000** on blood glucose test strips per year.
- Prescribing of BGTS for patients with Type 2 Diabetes should be periodically **reviewed** to ensure that **testing is still necessary**, and quantities reduced if appropriate, to avoid wastage.
- **Where SMBG is appropriate**, blood glucose meters recommended by **NHS England**, which use **cost-effective test strips and lancets**, should be used - [Link to full guidance⁵](#).
- [See Norfolk & Waveney's Summary](#) for recommended meters and test strips for diabetes

Advice for prescribing and reviewing use of BGTS

- For newly diagnosed **patients with Type 2 Diabetes** who **require SMBG**, please use NHS England-recommended meters and test strips.
- **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 BULK SWITCH**.
- Pharmacy / Dispensary staff can support switching to recommended BGTS and be involved in training patients to use their new meter.
- **Remember to take previous BGTS off repeat**. Also **change to cost-effective lancets** (see [Key Message Bulletin 23](#))
- **At annual review**, check:
 - Is monitoring appropriate? Consider whether the patient drives.
 - Self-monitoring competency and skills
 - The quality and frequency of testing
 - How BG test results are used and the impact on quality of life – *is there benefit from continuing to test?*
 - That the quantity of BGTS being requested and issued is reasonable and appropriate
 - The equipment used - discuss the possibility of changing existing meter/BGTS to a recommended option with patients (*if appropriate*). Use up stock of old BGTS is before using a new meter and supply of BGTS.
 - Inform local pharmacy / dispensary of the change so they can support the patient with their new meter.

SPECIFIC METERS MAY BE REQUIRED FOR SOME PATIENTS⁵ e.g.

- **Type 2 Diabetes (NHSE Category 3):** *may have also testing ketones; carbohydrate counting meters.*
- **Children / LD:** *need to consider safety / convenience / continued engagement with testing.*
- **Pregnancy:** *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.*

Intermittently scanned Continuous Glucose Monitoring (*isCGM*) “Flash” Sensors

- **NHS England** recommends *isCGM* for patients with Type 1 Diabetes, and patients with a learning disability with insulin-treated Type 2 diabetes– see [NHSE guidance⁶](#).
- In Norfolk & Waveney, “Flash” *isCGM* for T1DM should be **initiated by diabetes specialists only**.
- Specialists should provide GPs with a copy of the **patient contract** and **initiation letter** giving authority to prescribe. Specialist will provide **Scanning Device** and **ONE sensor (14 days)**.
- **GPs** should prescribe **Freestyle Libre 2 sensor for 6 months**; the specialist will **review** against agreed criteria and will recommend either continuing or stopping use.
- If continuing, the specialist will request **funding via an electronic prior approval form** and a **continuation letter** will be sent to the patient’s GP. Prescribing should **only** continue beyond 6 months in primary care if a **continuation letter** has been received.
- [Commissioning arrangements](#) to extend use of *isCGM* for patients with T2DM are currently in progress.

References

1. PrescQIPP Bulletin 212 November 2018 Testing strips in diabetes
<https://www.prescqipp.info/umbraco/surface/authorisedmediasurface/index?url=%2fmedia%2f3867%2f212-testing-strips-in-diabetes-20.pdf>
2. Clar C, et al. Self-monitoring of blood glucose in type 2 diabetes: systematic review. Health Technol. Assess 2010;14(12)
<https://pubmed.ncbi.nlm.nih.gov/20226138/#affiliation-1>
3. NICE Guideline 28 Type 2 diabetes in adults: management <https://www.nice.org.uk/guidance/ng28/chapter/1-Recommendations>
4. Assessing fitness to drive: a guide for medical professionals, Driver and Vehicle Licensing Agency last update August 2018
<https://www.gov.uk/guidance/assessing-fitness-to-drive-a-guide-for-medical-professionals>
5. NHS England: Commissioning recommendations following the national assessment of blood glucose and ketone meters, testing strips and lancets:
<https://www.england.nhs.uk/publication/commissioning-recommendations-blood-glucose-and-ketone-meters-testing-strips-and-lancets/>
6. NHS England - Glucose monitoring for patients living with diabetes: <https://www.england.nhs.uk/diabetes/digital-innovations-to-support-diabetes-outcomes/flash-glucose-monitoring/>

Title	KEY MESSAGES Bulletin 22 Blood Glucose Testing Strips
Description of policy	<i>To inform healthcare professionals</i>
Scope	<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>
V1 Prepared by	Prescribing & Medicines Management Team (LS) in conjunction with Specialist Diabetes Nurse (JW)
Evidence base / Legislation	Level of Evidence: <i>A. based on national research-based evidence and is considered best evidence</i> <i>B. mix of national and local consensus</i> <i>C. based on local good practice and consensus in the absence of national research based information.</i>
Dissemination	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"/>
Approved by	<i>Norfolk & Waveney ICB Prescribing & Medicines Management Senior Team</i>
Authorised by	<i>Norfolk & Waveney Drug & Therapeutics Commissioning Group</i>
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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.
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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.
2.3	14/5/19	AGEM Medicines Optimisation Team	Update	Link to NICE guidance updated. Guidance on Freestyle libre amended as per NHSE and local commissioning arrangements.
3.0	10/11/20	AGEM Medicines Optimisation Team (FM/PP)	Update	References and hyperlinks checked and revised where no longer accessible. Link to DVLA INF188/2 added Link to DVLA INF294 added Estimated annual spend on BGTS updated NHSE Freestyle Libre guidance links updated Ratified by the N&W Prescribing Reference Group – Dec 2020
4.0	24/01/24	Norfolk & Waveney ICB Medicines Optimisation team (FM)	Draft update	Annual spend on BGTS updated Reference to NHSE Commissioning recommendations for BG meters and BGTS incorporated. Advice on Freestyle Libre updated to acknowledge revised NHSE guidance on intermittently scanned (is)CGM Link to local Summary Table of NHSE-recommended BGT meters and BGTS added (link to previous Cost Comparison table updated to national guidance) Supported by N&W ICB M.O. Senior Team For consideration by N&W TAG – February 2024
4.1	Feb 2024	JC, TAG Lead Technician	Final	Supported by the TAG