

Self-monitoring of blood glucose (SMBG) for adults with Type 1 diabetes

Position Statement (Updated: June/2018)

Why have we produced this position statement

Self-monitoring of blood glucose (SMBG) is an effective tool for self-management of glucose levels among people with Type 1 diabetes. Most people with Type 1 diabetes need to keep their glucose levels within a target range to manage their condition day to day and to reduce the incidence of serious long-term diabetes related complications. SMBG helps people using insulin to manage their glucose levels and identify low blood glucose levels before the development of severe hypoglycaemia.

Routine SMBG requires the use of blood glucose testing strips and meters and / or flash glucose devices. People with Type 1 diabetes are prescribed the devices and kit for self-monitoring by their GP. However, many people with Type 1 diabetes continue to face restrictions in accessing what they need to manage their glucose levels.

How did we develop this position?

Diabetes UK reviewed the national guidelines on diabetes including clinical guidelines for adults with Type 1 diabetes¹ which includes several recommendations which we support on self-monitoring of blood glucose on the following: frequency of testing, education, choice of meter, pregnancy², driving, ketone testing, and continuous glucose monitoring. This position has also been developed in light of availability of newer technology for monitoring glucose levels such as Flash glucose monitoring devices, and our consensus guideline on Flash GM³.

What we say about this issue

SMBG is important in managing Type 1 diabetes among adults. Improved glycaemic control can minimise the risk of hypoglycaemia and the incidence of long term complications. For people with Type 1 diabetes to be fully engaged with the management of their condition, they should be allowed access to their choice of self monitoring devices based on their individual needs and preferences as assessed jointly with their care team.

SMBG should be part of an integrated care package for everyone with Type 1 diabetes. Healthcare professionals should be encouraged to work in partnership with their Type 1 diabetes patients to discuss, and agree together in a joint decision, frequency of testing according to their individual needs and circumstances.

Both NICE guidance (NG17 and NG3) and the DVLA guidance⁴ should be followed as a minimum concerning testing of blood glucose and ketones.

Recommendations for people with diabetes:

- People with Type 1 diabetes should be involved in developing local recommendations about prescriptions of meters and test strips to ensure local medicines management policies take into account their individual needs.
- If a person with Type 1 diabetes has not been prescribed enough test strips to meet their needs by a GP, they are within their rights to challenge this decision. Often explaining the reason behind their need is sufficient, but if this does not work they should ask their diabetes team to write to their GP and tell them how many strips should be prescribed.
- If adults with Type 1 diabetes have been limited to a meter that does not meet their requirements they are within their rights to challenge this decision and discuss with their GP why they would prefer a different meter.
- We recommend the use of blood ketone meters as it gives a real time result compared to urine testing,
- In the event a GP will not prescribe a blood ketone meter, people with Type 1 diabetes are within their rights to challenge this decision. Often explaining the reason behind their need is sufficient but if this does not work they should ask their diabetes team to write to them to request the prescription.

Recommendations for healthcare professionals:

- The NICE guidance listing number of tests should not be used by healthcare professionals or commissioners to limit test strips and should only be regarded as a guide.
- We recommend that Flash GM devices should be made available, to any adult with Type 1 diabetes when intensive insulin therapy becomes necessary because of severely reduced pancreatic function. Flash GM should also be made available as a self-management tool for those having difficulties in achieving their personalised treatment target, frequent hypoglycaemia, hyperglycaemia or both.
- GPs need to be familiar with the latest DVLA guidance and ensure licensing requirements for testing are adhered to so that their patients have adequate test strips and the correct meter as detailed.
- When GPs are prescribing blood glucose test strips, it is important that allowance is made for increased need (e.g. illness and holidays) to prevent people with Type 1 diabetes having to undertake repeated trips to their doctors and pharmacists for repeat prescriptions.
- In Northern Ireland blood glucose test strips should be provided as recommended by the Chief Medical Officer in 2013 for people living with Type 1 diabetes to support successful management of their condition.

Recommendations for NHS England

- NHS England should make sure that GPs and Clinical Commissioning Groups are not restricting access to test strips and meters for people with Type 1 diabetes. This puts people at risk of hypoglycaemia which can threaten their safety and lead to costly hospital admissions.

Recommendations for National Institute of Health and Care Excellence (NICE)

- We recommend that NICE review their recommendation concerning access to CGM to reflect current evidence and clinical consensus on diabetes technology for Type 1 diabetes. Please see our position statement on this [here](#).

Evidence and analysis

To assess the level of accessibility to blood glucose test strips and meters we have conducted three surveys since 2013.^{5 6 7} Each found that access is subject to geographical variation and not always based on the individual need.

In our most recent survey conducted in 2016, 27 per cent of the 1,000 respondents said that they had, in the past 12 months, been refused a prescription for blood glucose test strips or had the number of test strips on their prescription restricted. Of these, over half (52 per cent) had Type 1 diabetes.

The key findings from these surveys are as follows:

- **Test strip restriction.** Budget constraints and being told they were “testing excessively” were two of the reasons why restrictions were being implemented by GPs. Many respondents stated that they had to ration the number of times they tested and make difficult decisions about when to test. Some respondents also reported that GP reception staff and Practice Managers prevented them from accessing the number of test strips they needed.
- **Test strips and driving.** Many respondents reported that they were being provided with too few test strips by their GP required to meet DVLA legal requirements.
- **Meter restriction.** 66 per cent of respondents stated they were not given any choice in blood glucose meter and GPs very often switched to a different, cheaper meter without discussing with the person with diabetes. Of these, one in four were not happy with the meter provided.
- **Ketone testing restriction.** Testing for ketones when glucose levels are very high, or if you are unwell or planning a pregnancy, is vital. However, the survey reveal that local medicines management policies do not always reflect this guidance.

In addition we have mapped availability of Flash GM devices which you can access on our website [here](#).

In January 2018, the Associate National Clinical Director for Diabetes of NHS England wrote to all Clinical Commissioning Groups (CCGs) to remind them of the importance of giving access to the appropriate number of test strips available for people with Type 1 diabetes. The letter encourages CCGs to work with local clinicians to ensure appropriate numbers of test strips are made available and to make Flash GM available to those who could benefit in line with the RMOC criteria. The NHS England’s Regional Medicines Optimisation Committee (RMOC) (North) reviewed the use of the flash glucose monitoring system and have produced a [guidance](#) recommending the criteria for prescribing flash glucose monitoring to Area Prescribing Committees in England who are considering applications submitted by clinicians and others to list flash glucose monitoring on local tariffs.

Continuous glucose monitoring system (CGM) is a technology that measures your glucose levels every minute and able to display trends in glucose levels over time as a graph

rather than a single measurement. In a recent study, this technology has shown to reduce incidences of severe hypoglycaemia and improve HbA1c⁸. Presently, there has been clinical consensus on the benefit of this technology in helping achieve optimal glucose levels in people with Type 1 diabetes⁹.

Continuous Glucose Monitoring and driving

Because this system measures tissue glucose concentration and not blood, the DVLA stipulates drivers must monitor their blood glucose levels as previously listed, with test strips and a meter.

Further information

If adults with Type 1 diabetes or their careers are experiencing restriction on test strips and blood glucose meters or flash GM devices they can contact the following for support:

- **Diabetes UK helpline**

Call: 0345 123 2399, Monday to Friday, 9am–7pm or email helpline@diabetes.org.uk. If you're in Scotland: Call: 0141 212 8710, Monday to Friday, 9am–7pm.

- **INPUT Patient Advocacy** is a charity supporting patients' access to diabetes education and technology, for more information and assistance: www.inputdiabetes.org.uk/ or tel: 0800 228 9977
- **Juvenile Diabetes Research Foundation (JDRF)** is a Type 1 diabetes charity that funds research to cure, treat and prevent type 1 diabetes, including a major initiative to perfect the artificial pancreas, a technology that could revolutionise treatment of Type 1 diabetes. For more information and assistance: www.jdrf.org.uk
- [Type 1 Technology. A guide for adults with type 1 diabetes, 2016. Diabetes UK, INPUT, JDRF.](#)

References

1. NICE NG17, Type 1 diabetes in adults: diagnosis and management. August 2015. Updated: July 2016. www.nice.org.uk/guidance/ng17/chapter/1-Recommendations#blood-glucose-management-2
2. NICE NG3. Diabetes in pregnancy: management from preconception to the postnatal period. February 2015. Updated: August 2015. www.nice.org.uk/guidance/ng3/chapter/1-recommendations
3. https://www.diabetes.org.uk/resources-s3/2017-12/1190_Flash%20glucose%20monitoring%20guideline_digital_nov17.pdf
4. Assessing Fitness to drive: a guide for medical professionals. DVLA. March 2016. Updated March 2017. www.gov.uk/government/publications/assessing-fitness-to-drive-a-guide-for-medical-professionals
5. Access to test strip report, Diabetes UK, 2013.
6. Access to test strip report, Diabetes UK, 2014.
7. Test strip and meter survey, Diabetes UK, 2016.

8 . Real-time continuous glucose monitoring significantly reduces severe hypoglycaemia in hypoglycaemia unaware patients with Type 1 diabetes. Diabetes Care.2013.Dec; 36(12) 4160-2. www.ncbi.nlm.nih.gov/pubmed/24103902

9 . Type 1 diabetes technology: A consensus guideline, Diabetes UK 2018. <https://www.diabetes.org.uk/position-statements-reports/specialist-care-for-children-and-adults-and-complications/type-1-technology-guidelines>