Frequency of SMBG and Ketones		
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NHS
Nottinghamshire Area Prescribing Committee

Frequency of Blood Glucose Self-Monitoring: Adults

Type 1 Diabetes (T1DM)

SMBG: Essential for ALL patients with T1DM
Monitor at least: **4 times a day**: before each meal and before bed. (Excl. CGM Pts)
150 test strips a month

EXCEPTIONS
Testing **up to 10 times a day** if any of the following apply:
- HbA1c target not achieved.
- Impaired hypo awareness / frequent hypos or undertaking high-risk activities.
- During illness. Sick Day Leaflet.
- Before, during and after sport.
- Lifestyle changes
- When planning or during pregnancy and whilst breastfeeding.
- Driving (see DVLA advice for drivers).

Ketone Testing
ALL patients as part of 'sick day rules'.
~10 strips per year

EXCEPTIONS to KETONE GUIDELINES
Children, insulin pump patients, frequent DKA admissions, secondary DM, trauma, LADA.
A blood ketone test between 0.6-1.5mmol/l: test every two hours.
<0.6: normal reading
>2: Seek medical help immediately.

rtCGM or isCGM (T1DM and T2DM)
Finger pricking test not required.
However, exceptions include:
- Rapidly changing blood glucose levels when interstitial fluid glucose levels may not accurately reflect blood glucose levels.
- If CGM shows hypoglycaemia or impending hypoglycaemia.
- When symptoms do not match the system readings.

Group 1 drivers ONLY:
- When blood glucose level is <4mmol/l
- When showing symptoms of hypoglycaemia.
- On an insulin pump: Contour Next test strips required for bolus dosing.

Group 2 drivers must continue to use finger prick testing for the purposes of driving.

50 test strips as PRN every 3 months. If a patient is regularly testing whilst on CGM then the on-going need should be reassessed (excluding insulin pump patients).

Type 2 Diabetes (T2DM)

Diet + exercise, metformin, DPP-4i, SGLT-2i, pioglitazone + GLP-1RA only
No SMBG normally recommended. HBA1c testing recommended.

Sulfonylurea, meglitinides
Patients with hypoglycaemic episodes may need to test 2-3 times per week at different times of day.

Acute prescriptions of 50 test strips only

Insulin Therapy +/- Oral antidiabetics.
Basal Insulin:
HbA1c to target: twice a day pre breakfast and pre bed.
50 - 100 test strips per month.
Initiation/HbA1c not to target: fasting glucose once a day before breakfast then test at different times (2-4 times a day).
50-150 test strips per month.

Biphasic
Twice a day at various times to include pre and post prandial and pre bedtime BG.
50 - 100 test strips per month.

Basal-bolus
As for T1DM

EXCEPTIONS
- Intercurrent illness
- therapy is changed or intensified
- co-prescribed steroids (midday, before evening meal and 2 hours after)
- Patients with post-prandial hyperglycaemia
- Pregnant, planning to become pregnant & gestational diabetes: **150 -200 strips per month.**
- Lifestyle changes
- On Percutaneous endoscopic gastrostomy (PEG) feed
- Driving (see DVLA advice for drivers).

Ketone Testing
T2DM – Specialist initiation only.
~10 strips per year

Urine dipstick to exclude DKA in SGLT-2i patients.

EXCEPTIONS to KETONE GUIDELINES
Secondary DM due to pancreatic cancer, trauma, LADA

Notts APC BGTS Formulary
Please refer to the APC website for the recommended local meters

Monitoring requirements for drivers

	Group 1 – Cars and motorbikes	Group 2 – Passenger carrying vehicles: Taxis/private hire, buses, coaches, large goods vehicles: lorries and horse boxes.
Diabetes managed by diet	No requirement	No requirement
Diabetes managed by non-insulin injections and oral tablets (Metformin, DPP-4 inhibitors (gliptins), SGLT-2 inhibitors, GLP-1 agonists, and non-insulin injectables)	No requirement however may be assessed individually. (Patients who are at risk/suffered severe hypoglycaemia).	No requirement however may be assessed individually. (Patients who are at risk/suffered severe hypoglycaemia).
Diabetes managed by oral tablets carrying a hypoglycaemia risk (Including sulphonylureas and glinides)	Should offer self-monitoring of glucose monitoring at times relevant to driving to enable detection of hypoglycaemia.	Regular self-monitoring of blood glucose – at least twice daily and at times relevant to driving. i.e., no more than two hours before the start of the first journey and every two hours while driving.
Insulin treated diabetes	Monitor blood glucose no more than 2 hours before the start of the first journey and every 2 hours after driving has started.	Monitor blood glucose twice daily including on days when not driving, no more than two hours before the start of the first journey and every 2 hours after driving has started. Meter(s) with 3 months memory functions must be available for assessment.
Patients on rtCGM or isCGM	rtCGM or isCGM may be used for monitoring glucose at times relevant to driving. Patients must still carry and use capillary glucose testing equipment in the following circumstances: ■ when the glucose level is 4.0 mmol/L or below ■ when symptoms of hypoglycaemia are being experienced ■ when the glucose monitoring system gives a reading that is not consistent with the symptoms being experienced (for example symptoms of hypoglycaemia and the system reading does not indicate this)	rtCGM or isCGM **must** not be used for the purpose of group 2 diving and licensing. Group 2 drivers who use rtCGM or isCGM must continue to monitor capillary blood glucose levels at times defined by DVLA.

Glossary:
SMBG: Self-monitoring blood glucose
DKA: Diabetic ketoacidosis
CGM: Continuous glucose monitoring
rtCGM: Real time continuous glucose monitoring.
isCGM: Intermittently scanned continuous glucose monitoring also known as flash glucose monitoring (F-CGM) (Freestyle Libre).
PRN: When required.
LADA: Late autoimmune diabetes in adults

References

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