CARE AND USE OF GLUCOSE METERS WITHIN THE TRUST PROCEDURE

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Consultation (Date and nature of contact)	Matrons Community Services Clinical Network Group Physical Health and Medical Devices Group
Date of Last Changes (This Version)	14 February 2024
Date of Next Review	February 2027
Name of approving group/Committee **Date of approval**	Physical Health and Medical Devices Group 14/02/2024

VALIDITY – Policies should be accessed via the Trust intranet to ensure the current version is used.

CHANGE RECORD

Version	Date	Change details
1.0	*May-22*	*New procedure.* *Approved at PHMD 14 June 2022*
1.1	*Feb-24*	*Additional training materials. Update to training link. Removal of external contacts and named trainer due to leaving posts. Approved at Physical Health and Medical Devices Group (14 February 2024).*

Contents

1. INTRODUCTION

To ensure clinical staff are safely and effectively monitoring patient's blood glucose levels it is essential that staff follow a standardised procedure. This procedure has been developed to ensure staff use blood glucose monitoring equipment appropriately in order obtain accurate blood glucose results. This procedure will also outline the requirements for staff training and competency.

2. SCOPE

This procedure applies to all healthcare workers employed by Humber Teaching Foundation Trust, who as part of their role are responsible for blood glucose monitoring.

It is the responsibility of Health Care Workers to ensure the equipment they are using is in good working order.

The document supports the Standard Operating Procedure Insulin Prescribing, Administration and Blood Glucose Monitoring (SOP21-030)

3. DUTIES & RESPONSIBILITIES

Managers, Team Leads, and Clinical Leads:

- Will ensure all clinical areas have access to blood glucose monitoring equipment as recommended by the Trust.
- Will ensure all practitioners using the blood glucose meters have completed appropriate training and competency assessment.

Medical Devices Safety Officer (MDSO):

- Will co-ordinate the delivery of glucose meters to clinical areas on request, and ensure that registration forms are sent to teams to register device serial numbers
- Will co-ordinate with GlucoRX to organise Quality Control schedules for each device to be checked and calibrated by clinical staff.

Clinical Staff

- Will ensure they are up to date with relevant training and competencies in relation to blood glucose monitoring having completed their competency assessment
- Will be responsible for checking the equipment prior to each use
- Will ensure that the blood glucose monitor/s within their clinical area have been subject to a daily quality control test prior to use
- Will be the responsible for carrying out the external quality assessment once a month and uploading results to the external party and acting on any feedback sent from them.

Ward Staff and Clinical Groups requiring only meters for Wards, Clinics and Groups

- Will ensure they are up to date with relevant training and competencies in relation to blood glucose monitoring having completed their competency assessment
- Delegated Nurse on duty will be responsible for checking the equipment prior to each use, i.e., with emergency equipment daily

- Delegated Nurse on duty will ensure that the blood glucose monitor/s within their clinical area have been subject to a daily quality control test prior to use
- The Delegated Nurse will be the responsible for carrying out the external quality assessment once a month and uploading results to the external party and acting on any feedback sent from them
- To ensure the Glucose Meters details are registered with a generic email for each clinical area. This needs to be submitted to MDSO at Humber Teaching NHS Foundation Trust following which they will be sent the quality assessment equipment to enable the monthly test to be completed.
- To identify staff to be responsible for this monthly quality control to be completed.
- To ensure the results are added to the relevant software online
- To identify a co-ordinator who will receive information about all glucose meters within their clinical areas. (Matrons)
- Any replacement glucose meters need to be obtained via MDSO as the batch number will need to be added to the system.

4. PROCEDURES

Blood glucose monitors will be requested by clinical teams or responsible link nurse through the MDSO hnf-tr.mdso@nhs.net

Blood glucose meters will be assigned to an individual healthcare worker (in the Community Nursing Teams) or responsible practitioner within clinical areas as deemed appropriate. Each assigned device will have been asset registered by the MDSO prior to being issued.

Clinical staff will only use devices which have been approved and registered by the Trust and will not use patients' personal blood glucose meters.

Units for Glucose Measurement

- A Blood Glucose meter is used to measure a patient's blood glucose levels
- The units for glucose measurement in the UK are mmol/l. Clinical staff will be required to check the meter is set correctly and displays results in mmol/l. Other countries measure in mg/l and this should not be used in the UK.
- Normal Blood Glucose levels range between 4-7mmols/l.
- Patients with diabetes will have a personal glucose range, this must be documented on the Insulin Chart by the prescriber.

Safe Use of the Blood Glucose Meter
for the full manufacturers guidance see www.glucorx.co.uk/hct-instructions

- Explain the procedure to the patient and gain consent. If the patient does not have capacity to consent in relation to blood glucose monitoring, then consideration must be given under the mental capacity act and best interest decision making process.
- Undertake a visual inspection of the device to ensure is not cracked and appears in good working order.
- Apply non-sterile gloves as per standard precaution guidance
- Complete the daily quality assessment. This needs to be completed once daily and recorded in the logbook
- Prepare for use a single use safety lancet and glucose strip
- Ensure the patient's hands are clean to reduce the risk of contamination
- Insert strip into the machine and wait for instructions

- Obtain blood sample using the single use safety lancet from the side of the finger avoiding the fingertip. and apply blood to the test strip
- Once the glucose reading is obtained remove the test strip from the device
- Dispose of strip and lancet as per Standard Precautions Policy
- Clean blood off finger
- Dispose of all clinical waste as per Standard Precautions Policy
- Record glucose reading on the insulin chart/clinical records
- Follow up any concerns if the result is not in range by escalating to registered nurse, ward doctors, GP, Clinical Lead or Diabetes Specialist Nurse, as appropriate.
- If insulin is to be administered, this needs to be administered by a competent practitioner who has completed relevant training, having referred to SOP21-030 Insulin Prescribing, Administration and Blood Glucose Monitoring
- Following the administration of insulin ensure insulin chart is completed

Blood Glucose Meters and Consumables

- Blood glucose meters need to be kept in good working order
- Ensure the devices are cleaned after each patient use
- Ensure the test strips and control test fluids are in date. Control test fluid, once open, has a 3-month shelf life.
- Consumables (test strips and lancets) should be ordered through Oracle.
- Daily control testing fluid can be obtained by contacting the GlucoRx Rep at orders@glucorx.co.uk
- For monthly quality assessment the responsible practitioner needs to complete a Q-point Registration Template which is available on the form page of the intranet under Q Forms (humber.nhs.uk) and submit to MDSO hnf-tr.mdso@nhs.net from this the quality assessment equipment will be sent directly to the designated address to enable the monthly test to be completed.
- **NB failure to conduct monthly quality assessment will result in the device deactivating.**
- Requests for replacement blood glucose meters need to be made by contacting MDSO email hnf-tr.mdso@nhs.net
- Ordering blood glucose meters this will need to be made by Clinical Leads/Unit managers or designated link nurse by contacting MDSO email hnf-tr.mdso@nhs.net

Cleaning

- To clean the device exterior, wipe it with a cloth moistened with tap water or a mild cleaning agent, then dry with a soft dry cloth. Do NOT rinse with water.
- Do NOT use organic solvents to clean the device.
- Devices should be cleaned following cleaned before and after each patient use.

Device Storage

- Store the device in original bag supplied
- Storage conditions: -20°C to 60°C (-4°F to 140°F), below 95% relative humidity.
- Always store or transport the device in its original storage case.
- Avoid dropping and heavy impact.
- Avoid direct sunlight and high humidity taken from Glucose meter instructions

Blood Glucose Results

- All Blood Glucose Results must be documented in the patient's electronic record, and it is good practice to document the test strip lot number and that a daily quality control has taken place.
- If the patient is diabetic and receiving insulin, the result must be written on the insulin chart and actioned in line with Insulin Prescribing, Administration and Blood Glucose Monitoring SOP (SOP21-030) and Delegation of Administration of Insulin to a Health Care Support Worker SOP (SOP21-031)

Daily Quality Control Test and External Quality Assessment

Daily Quality Control Test

- A daily quality control test is required in accordance with manufacturers recommendations the results of which should be recorded in the logbook. See: How to perform a Quality Control test on a GlucoRx HCT meter at HCT Instructions | GlucoRx

Monthly Quality Assessment

- Monthly Quality Assessment (QA) will be performed to ensure the machines remain in good working order. This also provides an audit trail for the Trust and confidence the machines are accurate.
- Upon receiving the glucose meter, the responsible person will be required to register with the external party (Q-Point). This will be done by completing the registration form and by emailing the completed form to the MDSO hnf-tr.mdso@nhs.net who will send off the Q point Registration audit forms to the external party.
- Each area has the responsibility to complete the Q point registration form. This should be a Clinical Lead or responsible link nurse that completes this for each clinical staff member in their team that has been given a glucose meter. Ensuring the person's work address is present and an email.
- The QA pack will be sent to the address every month for the staff to perform the test.
- Each staff member will be emailed with account details and how to log on to the system to record the results of the QA.
- Meters belonging to staff who no longer work for the Trust will need to be returned to the clinical lead who will then contact the MDSO in order for the meter to be re-assigned.

Contra-indications/Interferences

- There are some clinical conditions which may give false or inaccurate blood glucose results. In such circumstance this device is not recommended. **Examples include** dialysis treatments**,** peripheral circulatory failure**,** severe dehydration, variations in blood oxygen levels, patient's receiving intensive oxygen therapy
- It is important to check manufacturer's instructions for any exclusions.
- In such cases a venous blood sample must be obtained to ensure bloods are stable (HBa1C and Random Glucose) if there is a query on accuracy or unexpected results.

Contacts

Ordering consumables (QC logbooks and QC solution)
orders@glucorx.co.uk

External Audit
Beth-Ann Singer (**Q point specialist**). Beth-Ann.Singer@glucorx.co.uk

Humber Teaching NHS Foundation Trust Links and Support
Non-Medical Prescribing Lead Liz Harrison elizabeth.harrison11@nhs.net
Humber Teaching NHS Foundation Trust- Diabetes Support

Q point Registration forms and ordering new/replacement glucose meters
Medical Devices Safety Officer, Humber Teaching NHS Foundation Trust hnf-tr.mdso@nhs.net or Jennifer.powell12@nhs.net

Additional Resources:

Training Video: GlucoRx HCT Training video for Healthcare Professionals

Video Reference Library: GlucoRx HCT Blood Glucose & Ketone Meter - YouTube

5. EQUALITY & DIVERSITY

An Equality and Diversity Impact Assessment has been carried out on this document using the Trust approved EIA.

This has been completed and does not highlight any concerns.

6. IMPLEMENTATION

This procedure will be disseminated by the method described in the Trust's Document Control Policy.

The implementation of this procedure requires no additional financial resource.

7. MONITORING & AUDIT

The Medical Devices Safety Officer will maintain an asset register and maintenance schedule for medical devices.

This procedure and its implementation will be overseen by the Physical Health and Medical Devices Group.

8. REFERENCES/EVIDENCE/GLOSSARY/DEFINITIONS

Type 2 diabetes in adults (nice.org.uk)

9. RELEVANT HFT POLICIES/PROCEDURES/PROTOCOLS/GUIDELINES

Medical and Non-medical Devices Policy.pdf (humber.nhs.uk)

Community - Delegation of Care to Non Registrants SOP21-027.pdf (humber.nhs.uk)

Insulin - Prescribing Administration and Blood Glucose Monitoring SOP21-030.pdf (humber.nhs.uk)

CRS1 - Blood Glucose - Competency Assessment.pdf (humber.nhs.uk)

CRS1 - Blood Glucose - Guidance for Assessors.pdf (humber.nhs.uk)

CRS1 - Blood Glucose - Self-Assessment.pdf (humber.nhs.uk)

APPENDIX A - EQUALITY IMPACT ASSESSMENT (EIA)

For strategies, policies, procedures, processes, guidelines, protocols, tenders, services

1. Document or Process or Service Name: **Care and Use of Glucose Meters Within the Trust**
2. EIA Reviewer (name, job title, base and contact details) **Sadie Milner - Patient Safety and Practice Development Lead**
3. Is it a **Policy**, Strategy, Procedure, Process, Tender, Service or Other? **Procedure**

Main Aims of the Document, Process or Service
PROCEDURE FOR CARE AND USE OF GLUCOSE METERS WITHIN THE TRUST To ensure clinical staff are safely and effectively monitoring patient's blood glucose levels it is essential that staff follow a standardised procedure. This procedure has been developed to ensure staff use blood glucose monitoring equipment appropriately in order obtain accurate blood glucose results. This procedure will also outline the requirements for staff training and competency.
Please indicate in the table that follows whether the document or process has the potential to impact adversely, intentionally or unwittingly on the equality target groups contained in the pro forma

Equality Target Group	Is the document or process likely to have a potential or actual differential impact with regards to the equality target groups listed?	How have you arrived at the equality impact score?
1. Age 2. Disability 3. Sex 4. Marriage/Civil Partnership 5. Pregnancy/Maternity 6. Race 7. Religion/Belief 8. Sexual Orientation 9. Gender re-assignment	Equality Impact Score Low = Little or No evidence or concern (Green) Medium = some evidence or concern(Amber) High = significant evidence or concern (Red)	a) who have you consulted with b) what have they said c) what information or data have you used d) where are the gaps in your analysis e) how will your document/process or service promote equality and diversity good practice

Equality Target Group	Definitions	Equality Impact Score	Evidence to support Equality Impact Score
Age	Including specific ages and age groups: Older people Young people Children Early years	**Low**	No additional considerations
Disability	Where the impairment has a substantial and long term adverse effect on the ability of the person to carry out their day to day activities: Sensory Physical Learning Mental Health (and including cancer, HIV, multiple sclerosis)	**Low**	No additional considerations
Sex	Men/Male Women/Female	**Low**	No additional considerations
Marriage/Civil Partnership		**Low**	No additional considerations
Pregnancy/ Maternity		**Low**	No additional considerations

Equality Target Group	Definitions	Equality Impact Score	Evidence to support Equality Impact Score
Race	Colour Nationality Ethnic/national origins	**Low**	No additional considerations
Religion or Belief	All Religions Including lack of religion or belief and where belief includes any religious or philosophical belief	**Low**	No additional considerations
Sexual Orientation	Lesbian Gay Men Bisexual	**Low**	No additional considerations
Gender Reassignment	Where people are proposing to undergo, or have undergone a process (or part of a process) for the purpose of reassigning the person's sex by changing physiological or other attribute of sex	**Low**	No additional considerations

Summary	
No additional considerations.	
EIA Reviewer – Sadie Milner	
Date completed; 12/02/2024	Signature S.Milner