

Provincial Clinical Guideline



Title: Home Care - Advanced Glucose Monitors (AGM) in the Home Care Setting

Level: Provincial

Service Area: Home Care

Applicable to: All healthcare providers, organizations, and facilities across Manitoba involved in delivering health services provided or funded by the government or a health authority.

Approved by: Provincial Primary Care, Home, Community & Palliative Care Program

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1.0. Purpose

- 1.1. To provide guidance, information, and a standardized process for health care professionals to support clients in the Home Care (HC) setting with the use of Advanced Glucose Monitors (AGM).
- 1.2. To establish evidence-based care standards for the use of AGM devices in the HC settings across Manitoba

2.0. Scope

- 2.1. Applies to all regional health authorities (RHA) in Manitoba, responsible for administering and coordinating Home Care services.
- 2.2. Applies to all Home Care staff, regional staff, and physicians within an RHA, involved in assessing and delivering Home Care and/or providing care related to diabetes management.

3.0. Definitions

3.1. Defined Terms

- 3.1.1 Advanced Glucose Monitor (AGM): A monitor that samples glucose levels in the interstitial fluid under the skin by a subcutaneous sensor.

It can either be a Continuous Glucose Monitor or a Flash Glucose Monitor.

- 3.1.2 Blood Glucose Monitoring: The use of a glucose meter for measuring the concentration of glucose in the capillary blood. Particularly important in diabetes management, a blood glucose test is performed by piercing the skin to draw blood, then applying the blood to a chemically active disposable 'test-strip'.
- 3.1.3 Capillary Blood Glucose: Determination of glucose in the capillary blood using finger sticks and glucose monitor.
- 3.1.4 Client: An individual of the public who is requesting and/or receiving community services from Home Care.
- 3.1.5 Continuous Glucose Monitor: A device that continuously samples glucose levels in the interstitial fluid under the skin, typically every 5 minutes, through a subcutaneous sensor. The results are displayed on a reader device or smartphone.
- 3.1.6 Diabetes Mellitus: A chronic metabolic disorder marked by hyperglycemia. Diabetes Mellitus occurs because of failure of the pancreas to produce insulin (Type 1 Diabetes) or from insulin resistance, with inadequate insulin production to sustain normal metabolism (Type 2 Diabetes).
- 3.1.7 Flash Glucose Monitor: A device that measures glucose levels in interstitial fluid via a sensor, requiring intermittent scanning with a reader to display the current glucose levels.
- 3.1.8 Home Care (HC): A service provided by the RHA in Manitoba to eligible individuals regardless of age who require health services or assistance with activities of daily living. Home Care partners with individuals, their families/caregivers and community resources to support individuals to stay in their homes for as long as is safely possible.
- 3.1.9 Hyperglycemia: An abnormally high blood glucose level, generally greater than 11.0 mmol/L.
- 3.1.10 Hypoglycemia: An abnormally low level of glucose in the blood, generally less than 4.0 mmol/L, associated with arousal of the sympathetic nervous system and neurological effects if more severe.

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- 3.1.11 Reader: A device, such as a smartphone or a dedicated AGM reader, which displays the interstitial fluid glucose information from the sensor, including current glucose value, a trend and daily glucose graph, and trend arrow. The arrow indicates the direction and velocity of change in interstitial glucose levels.
- 3.1.12 Regional Health Authorities (RHA): Refers to regional health authorities established or continued under the Government of Manitoba, Health System Governance and Accountability Act.
- 3.1.13 Sensor: A small disposable device worn on the skin (often the stomach or arm). The device tests subcutaneous interstitial glucose levels every 5 minutes and sends information to an embedded or attached transmitter and then to a separate AGM reader device.
- 3.1.14 Type 1 Diabetes: Diabetes that is primarily a result of pancreatic beta cell destruction with consequent insulin deficiency, which is prone to ketoacidosis. This form includes cases due to an autoimmune process and those for which the etiology of beta cell destruction is unknown.
- 3.1.15 Type 2 Diabetes: A combination of insulin resistance, incretin dysfunction, and abnormal hepatic gluconeogenesis resulting in reduced insulin action and subsequent hyperglycemia. It typically develops in adults but may also be seen in youth. It is a progressive condition and with time, many individuals will eventually require insulin replacement therapy to control blood glucose levels.

3.2. Abbreviations

- 3.2.1 CT: Computed Tomography
- 3.2.2 PET-CT: Positron Emission Tomography – Computed Tomography
- 3.2.3 mmol/L: Millimoles per Litre
- 3.2.4 MRI: Magnetic Resonance Imaging

3.3. Professional Groupings

- 3.3.1 Health Care Provider (HCP): Staff with formal education in their profession and are prepared for practice with entry-level competencies (the knowledge, skills, and judgement acquired in a foundational education program). Healthcare providers are licensed, certified, or

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privileged and have a scope of practice that defines the competencies that are authorized to practice. Healthcare providers may or may not be regulated by a provincial regulatory body.

- 3.3.2 Most Responsible Provider (MRP): A physician/physician assistant/nurse practitioner with the overall responsibility for directing and coordinating the care of a patient at the specific point in time.
- 3.3.3 Unregulated Care Providers: Formal members of the health-care team who are not regulated and who have a scope of employment defined by their employer based on their qualifications and education.
- 3.3.4 Direct Service Nurse (DSN): A Registered Nurse, a Registered Psychiatric Nurse or a Licensed Practical Nurse working within HC that provides direct care to HC clients.
- 3.3.5 Hospital Based Case Coordinator (HBCC): A professional HCP hired by the RHA to receive referrals and conduct assessments to determine eligibility for Home Care program supports. In collaboration with the client, family, and relevant interdisciplinary team members, the HBCC develops, coordinates, and evaluates the plan of care to support discharge from an acute care setting.
- 3.3.6 Home Care Case Coordinator (HCCC): A professional HCP hired by the RHA to complete client assessments to determine eligibility, to develop the Care Plan with the client and/or family/designated other and refer exceptional case decisions to the HC Manager.

4.0. Guideline

- 4.1. DSN will provide care to eligible clients in the HC setting with AGM insertion, use and maintenance of safety engineered AGM devices approved by the Manitoba Pharmacare Program based on the individual client care plan.
- 4.2. Unregulated Care Providers are not eligible to perform AGM insertion, use or maintenance.
- 4.3. The AGM results can be used by DSN at the time of their visit to make treatment decisions and medications adjustments for clients as long as the client is feeling well and not experiencing a glycemic event.
- 4.4. Blood Glucose Monitoring is used to complement the AGM device. All clients using AGMs must have access to a standard Blood Glucose Monitor using

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Capillary Blood in the event there are errors or symptoms that do not correlate with AGM results.

- 4.5. In cases where the client is admitted to acute care, discharge care planning may be managed by a HBCC or HCCC.
- 4.6. To ensure coordinated and comprehensive care, the HBCC, HCCC or designate will collaborate with the MRP and other members of the health care team including but not limited to the Chronic Disease Nurse, Diabetes Educator and other partners involved in the client's care.

4.7. Exclusion

- 4.7.1 It is not recommended to use an AGM to make treatment decision such as insulin adjustments, corrective or bolus insulin dosing or medications adjustments when the AGM is reading high or low and/or the client is experiencing symptoms of hypoglycemia or hyperglycemia. In these situations, DSN will rely on Blood Glucose Monitor testing to guide clinical decisions. Clients may continue to wear their AGM, but Blood Glucose Monitor results will be used to support any necessary treatment decisions.

5.0. Procedure

- 5.1. The MRP completes a HC referral with an order requesting the application of AGM and/or to use the AGM for glucose monitoring in the HC setting. It is recommended that the Most Responsible Provider (MRP) provides target ranges and identifies actions/care plan should the glucose levels be outside of the target ranges.
- 5.2. The HBCC, HCCC or designate reviews the request and develops an individualized care plan should the client:
 - 5.2.1 Meet eligibility for HC; and
 - 5.2.2 Requires assistance with the application of the AGM due to mobility or dexterity concerns and when all other formal/information support options have been exhausted (i.e. family/support networks, local pharmacy).
- 5.3. A DSN will be assigned to perform the AGM Sensor Application based on the manufacturer recommendations.

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5.4. The DSN supports clients with their AGM based on the individual client care plan and in accordance with the manufacturer's direction (see Resource [6.2 - Vendor Specific Instructions/Resources to support an Advanced Glucose Monitor in the Home Care Setting](#)).

5.5. At each visit, the DSN will:

5.5.1 Assess AGM or Blood Glucose Monitoring results and monitor for results outside of the target range using the client's equipment.

5.5.2 During the client visit, a Capillary Blood Glucose will be taken if the immediate AGM reading is:

5.5.2(a) High; or

5.5.2(b) Low; or

5.5.2(c) The client is feeling unwell and / or showing signs of hypoglycemia or hyperglycemia.

Based on the Capillary Blood Glucose result, the DSN will provide care to the client based on their individual care plan.

5.5.3 Ask client about any episodes of hypoglycemia and hyperglycemia.

5.5.3(a) Discuss the treatment plan for managing hypoglycemia and hyperglycemia with client and caregiver.

5.6. The AGM must be removed prior to any procedure that involves strong magnetic fields or electromagnetic radiation (examples: MRI, CT scan, PET-CT scan) or diathermy (high frequency electrical heat).

5.6.1 If requested by the client, family, or HCP, the HCCC will arrange for:

5.6.1(a) Removal of the sensor prior to the scheduled procedure.

5.6.1(b) Re-insertion of a new sensor after the procedure is complete.

5.6.2 During the period of time between removal and re-insertion, use Blood Glucose Monitoring to guide care.

5.7. Client Responsibilities

5.7.1 The client is responsible for the costs and provision of the AGM sensor, reader, and other supplies. They are responsible for the initial set up of the reader and any related equipment troubleshooting.

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- 5.7.2 The client is required to have a Blood Glucose Monitor and have the required supplies available should a Capillary Blood Glucose be required.
- 5.7.3 Each client and/or caregiver identifies an alternate plan to manage the monitoring of glucose levels should the AGM device dislodge, stop functioning, or require removal/replacement outside of regularly scheduled visit.
- 5.7.4 The client seeks Urgent Care/Emergency Care should they require assistance in managing hypoglycemic or hyperglycemic events.
- 5.7.5 The client and/or their caregiver discusses the hypoglycemic or hyperglycemic events and the care management of such events with their MRP.

5.8. Documentation

- 5.8.1 The DSN documents in the client record as per regional processes.
- 5.8.2 Documentation includes, but is not limited to, sensor insertion, positioning adjustments and/or replacement, glucose results (AGM or Blood Glucose Monitors), client reported concerns, and/or removal for imaging purposes.

5.9. Education & Training

- 5.9.1 DSN identifies their own learning needs and independently reviews the Clinical Guideline and applicable online learning for the applicable device. See Resource [6.2 - Vendor Specific Instructions/Resources to support an Advanced Glucose Monitor in the Home Care Setting](#).
- 5.9.2 DSN reviews Resource [6.3 - Advanced Glucose Monitors in the Home Care Setting - Health Care Providers - Frequently Asked Questions](#).

6.0. Resources

- 6.1. Learning Module: [Advanced Glucose Monitors in Home Care Setting](#)
- 6.2. [Vendor Specific Instructions/Resources to support Advanced Glucose Monitors in the Home Care Setting](#)

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- 6.3. [Advanced Glucose Monitors in the Home Care Setting - Health Care Provider - Frequently Asked Questions](#)
- 6.4. For Northern Health Region: Regional Diabetes Program Referral Form - Form # NHR_0659
- 6.5. For Prairie Mountain Health: Diabetes Teaching Manual found on Prairie Mountain Health's SharePoint page.
- 6.6. For Winnipeg Regional Health Authority: [Diabetes Compendium - WRHA Insite](#)

7.0. References

- 7.1. Diabetes Canada Clinical Practice Guidelines Expert Committee. (2018). [Diabetes Canada 2018 clinical practice guidelines for the prevention and management of diabetes in Canada](#). *Canadian Journal of Diabetes*, 42(Suppl 1), S1–S325.
- 7.2. Saskatchewan Health Authority. (2024). [Glucose Monitors – Clinical Resources](#).
- 7.3. Shared Health. (n.d.). [Diabetes Care](#).

8.0. Contact(s)

- 8.1. **Document Sponsor:** Provincial Program Director, Primary Care, Home, Community, and Palliative Care Program - Shared Health
- 8.2. **Document Owner(s):** Provincial Clinical Service Lead, Home & Community Care - Shared Health

Document Review History

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